## **PCT**

#### WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6:

C12N 15/12, 5/10, 1/21, C07K 14/47, 16/18, C12Q 1/68, G01N 33/50, 33/53, 33/68, A61K 38/17

(11) International Publication Number:

**WO 98/39446** 

(43) International Publication Date: 11 September 1998 (11.09.98)

(21) International Application Number:

PCT/US98/04482

**A2** 

(22) International Filing Date:

6 March 1998 (06.03.98)

(30) Priority Data:

INDING Date.		
60/040,162	7 March 1997 (07.03.97)	US
60/040.333	7 March 1997 (07.03.97)	US
60/038,621	7 March 1997 (07.03.97)	US
60/040.161	7 March 1997 (07.03.97)	US
60/040.626	7 March 1997 (07.03.97)	US
60/040,334	7 March 1997 (07.03.97)	บร
60/040,336	7 March 1997 (07.03.97)	US
60/040,163	7 March 1997 (07.03.97)	US
60/043,580	11 April 1997 (11.04.97)	US
60/043,568	11 April 1997 (11.04.97)	US

(Continued on the following page)

(71) Applicant (for all designated States except US): HUMAN GENOME SCIENCES, INC. [US/US]; 9410 Key West Avenue, Rockville, MD 20850 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): RUBEN, Steven, M. [US/US]; 18528 Heritage Hills Drive, Olney, MD 20832 (US). ROSEN, Craig, A. [US/US]; 22400 Rolling Hill Road, Laytonsville, MD 20882 (US). FISCHER, Carrie, L. [US/US]; 5810 Hall Street, Burke, VA 22015 (US). SOP-PET, Daniel, R. [US/US]; 15050 Stillfield Place, Centreville, VA 22020 (US). CARTER, Kenneth, C. [US/US]; 11601 Brandy Hall Lane, North Potomac, MD 20878 (US). BED-NARIK, Daniel, P. [US/US]; 8822 Blue Sea Drive, Columbia, MD 21046 (US). ENDRESS, Gregory, A. [US/US]: 9729 Clagett Farm Drive, Potomac, MD 20854 (US). YU, Guo-Liang [CN/US]; 13524 Straw Bale Lane, Damestown, MD 20878 (US). NI, Jian [CN/US]; 5502 Manorfield Road. Rockville, MD 20853 (US). FENG, Ping [CN/US]; 4 Relda Court, Gaithersburg, MD 20878 (US). YOUNG, Paul, E. [US/US]; 122 Beckwith Street, Gaithersburg, MD 20878 (US). GREENE, John, M. [US/US]; 872 Diamond Drive, Gaithersburg, MD 20878 (US). FERRIE, Ann, M. [US/US]; 13203 L Astoria Hill Court, Germantown, MD 20874 (US). DUAN, Roxanne [US/US]; 4541 Fairfield Drive, Bethesda,

MD 20814 (US). HU, Jing-Shan [CN/US]; 1247 Lakeside Drive #3034, Sunnyvale, CA 94086 (US). GRAVES, Kimberly, A. [US/US]; 12805 Atlantic Avenue, Rockville, MD 20851 (US). OLSEN, Henrik, S. [DK/US]; 182 Kendrick Place #24, Gaithersburg, MD 20878 (US). EBNER, Reinhard [DE/US]; 9906 Shelburne Terrace #316, Gaithersburg, MD 20878 (US). BREWER, Laurie, A. [US/US]; 14920 Mt. Nebo Road, Poolesville, MD 20837 (US), MOORE, Paul, A. [GB/US]; Apartment #104, 1908 Holly Ridge Drive, McLean, VA 22102 (US). SHI, Yanggu [CN/US]; 437 West Side Drive, Gaithersburg, MD 20878 (US). LAFLEUR, David, W. [US/US]; 1615 Q Street, N.W. #807, Washington, DC 20009 (US). LI, Yi [CN/US]; 1247 Lake-side Drive #3034, Sunnyvale, CA 94086 (US). ZENG, Zhizhen [CN/US]; 13950 Saddleview Drive, Gaithersburg, MD 20878 (US). KYAW, Hla [BU/US]; 520 Sugarbush Circle, Frederick, MD 21703 (US).

- (74) Agents: BROOKES, Anders, A. et al.; Human Genome Sciences, Inc., 9410 Key West Avenue, Rockville, MD 10850 (US).
- (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

## **Published**

Without international search report and to be republished upon receipt of that report.

With an indication in relation to a deposited microorganism furnished under Rule 13bis separately from the description. Date of receipt by the International Bureau: 06 April 1998 (06.04.1998)

(54) Title: 70 HUMAN SECRETED PROTEINS

## (57) Abstract

The present invention relates to 70 novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

£01042 214	11 1 11 1000 111 0 1 0 1							
60/043,314	11 April 1997 (11.04.97)	US	60/047,598	23 May 1997 (23.05.97)	US	60/056 882	22 4 1000 00 00 00	
60/043,369	11 April 1997 (11.04.97)	US	60/047,613	23 May 1997 (23.05.97)	US	60/050,882	22 August 1997 (22.08.97)	US
60/043,311	11 April 1997 (11.04.97)	US	60/047,582	23 May 1997 (23.05.97)	US	60/030,03/	22 August 1997 (22.08.97)	US
60/043,671	11 April 1997 (11.04.97)	US	60/047,596	23 May 1997 (23.05.97)	US	60/056,903	22 August 1997 (22.08.97)	US
60/043,674	11 April 1997 (11.04.97)	US	60/047,612	23 May 1997 (23.05.97)	US	00/056,888	22 August 1997 (22.08.97)	US
60/043,669	11 April 1997 (11.04.97)	US	60/047,632	23 May 1997 (23.05.97)	US	60/036,879	22 August 1997 (22.08.97)	US
60/043,312	11 April 1997 (11.04.97)	US	60/047,601	23 May 1997 (23.05.97)	US	60/056,880	22 August 1997 (22.08.97)	US
60/043,313	11 April 1997 (11.04.97)	US	60/047,595	23 May 1997 (23.05.97)		60/056,894	22 August 1997 (22.08.97)	US
60/043,672	11 April 1997 (11.04.97)	US	60/047.599	23 May 1997 (23.05.97)	US	60/056,911	22 August 1997 (22.08.97)	US
60/043,315	11 April 1997 (11.04.97)	US	60/047.588	23 May 1997 (23.05.97)	US	60/056,636	22 August 1997 (22.08.97)	US
60/043,578	11 April 1997 (11.04.97)	US	60/047.585	23 May 1997 (23.05.97)	US	60/056,874	22 August 1997 (22.08.97)	US
60/043,576	11 April 1997 (11.04.97)	US	60/047 586	23 May 1997 (23.05.97)	US	60/056,910	22 August 1997 (22.08.97)	US
60/043,670	11 April 1997 (11.04.97)	US	60/047.590	23 May 1997 (23.05.97)	US	60/056,864	22 August 1997 (22.08.97)	US
60/047,600	23 May 1997 (23.05.97)	US	60/047.594	23 May 1997 (23.05.97)	US	60/056,631	22 August 1997 (22.08.97)	US
60/047,615	23 May 1997 (23.05.97)	US	60/047 589	23 May 1997 (23.05.97)	US	60/056,845	22 August 1997 (22.08.97)	US
60/047,597	23 May 1997 (23.05.97)	US	60/047 593	23 May 1997 (23.05.97)	US	60/056,892	22 August 1997 (22,08,97)	US
60/047,502	23 May 1997 (23.05.97)	US	60/047 614	23 May 1997 (23.05.97)	US	60/056,632	22 August 1997 (22.08.97)	US
60/047,633	23 May 1997 (23.05.97)	US	60/047.501	23 May 1997 (23.05.97)	US	60/056,664	22 August 1997 (22.08.97)	US
60/047,583	23 May 1997 (23.05.97)	US	60/048 974	06 June 1997 (06.06.97)	US	60/056,876	22 August 1997 (22,08,97)	US
60/047,617	23 May 1997 (23.05.97)	US	60/048 964	06 June 1997 (06.06.97)	US	60/056,881	22 August 1997 (22,08,97)	US
60/047,618		US	60/056 886	22 August 1997 (22.08.97)	US	60/056,909	22 August 1997 (22,08,97)	US
	23 May 1997 (23.05.97)	US	60/056,837	22 August 1997 (22.08.97) 22 August 1997 (22.08.97)	US	60/056,875	22 August 1997 (22,08,97)	US
60/047,592	23 May 1997 (23.05.97)	US	60/056,889	22 August 1997 (22.08.97)	US	60/056,862	22 August 1997 (22.08.97)	US
60/047,581	23 May 1997 (23.05.97)	US	60/056,893		US	60/056,887	22 August 1997 (22,08,97)	US
	23 May 1997 (23.05.97)	US		22 August 1997 (22.08.97)	US	60/056,908	22 August 1997 (22.08.97)	US
	23 May 1997 (23.05.97)	US	60/056,050	22 August 1997 (22.08.97)	US	60/056,884	22 August 1997 (22.08.97)	US
		US	60/056,662	22 August 1997 (22.08.97)	US	60/057,761	05 September 1997 (05.09.97)	US
		US		22 August 1997 (22.08.97)	US	60/057,650	05 September 1997 (05.09.97)	US
,		-3	00/030,8/2	22 August 1997 (22,08.97)	US		1 (00.09.97)	05

## FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL AM AT AU AZ BA BB BE BF BG BJ BR CF CG CH CI CM CV CZ DE DK EE	Albania Armenia Austra Australia Azerbaijan Bosnia and Herzegovina Barbados Belgium Burkina Faso Bulgaria Benin Brazil Belarus Canada Central African Republic Congo Switzerland Côte d'Ivoire Cameroon China Cuba Czech Republic Gennany Denmark Estonia	ES FI FR GA GB GE GH GN GR HU IE IL IS IT JP KE KG KP KZ LC LI LK LR	Spain Finland France Gabon United Kingdom Georgia Ghana Guinea Greece Hungary Ireland Israel Iceland Italy Japan Kenya Kyrgyzstan Democratic People's Republic of Korea Republic of Korea Kazakstan Saint Lucia Liechtenstein Sri Lanka Liberia	LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG	Leaotho Lithuania Luxembourg Latvia Monaco Republic of Moldova Madagascar The former Yugoslav Republic of Macedonia Mali Mongolia Mauritania Malawi Mexico Niger Netherlands Norway New Zealand Poland Portugal Romania Russian Federation Sudan Sweden Singapore	SI SK SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW	Slovenia Slovakia Senegal Swaziland Chad Togo Tajikistan Turkmenistan Turkey Trinidad and Tobago Ukraine Uganda United States of America Uzbekistan Viet Nam Yugoslavia Zimbabwe	
-------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Applicant's or agent's	tile
reference number	

Form PCT/RO/134 (July 1992)

2S001PCT

International application

. Unassigned

one of the term of the second of the

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referre on page 76 , line N/A	d to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution	ection
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	y)
Date of deposit February 26, 1997	Accession Number 97902
C. ADDITIONAL INDICATIONS (leave blank if not applicab	This information is continued on an additional sheet
In respect to those designations in which a European Patent is made available until the publication of the mention of the grapplication has been refused or withdrawn or is deemed to be nominated by the person requesting the sample (Rule 28 (4))  D. DESIGNATED STATES FOR WHICH INDICATION	e withdrawn, only by the issue of such a sample to an expert (EPC).
E. SEPARATE FURNISHING OF INDICATIONS (learner	s blank if not applicable)
The indications listed below will be submitted to the International Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

#### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

#### UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

## **FINLAND**

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referr on page 82 , line N/A	
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🖂
Name of depositary institution American Type Culture Col	lection
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	ry)
Date of deposit April 4, 1997	Accession Number 97976 "
C. ADDITIONAL INDICATIONS (leave blank if not applicable	le) This information is continued on an additional sheet
In respect to those designations in which a European Patent is made available until the publication of the mention of the gra application has been refused or withdrawn or is deemed to be nominated by the person requesting the sample (Rule 28 (4)).	ant of the European patent or until the date on which
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING OF INDICATIONS (leave to	
The indications listed below will be submitted to the International B Number of Deposit")	Surcau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer
E PCT/PO/134 (1971)002)	المستحدين بالمستبار المستحدين المستحدد المستحدد المستحدد المستحدد المستحدد المستحدد المستحدد المستحدد المستحدد

## UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

#### DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

#### NETHERLANDS

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

## **FINLAND**

App	licant's	or	agent's	tile
		·m	har	

PS00:PCT

International application 'o. Unassigned

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
ame of depositary institution American Type Culture Colle	ection
ddress of depositary institution (including postal code and country 2301 Parklawn Drive cockville, Maryland 20852 United States of America	v)
rate of deposit February 26, 1997	Accession Number 97897
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(e) This information is continued on an additional sheet
n respect to those designations in which a European Patent is nade available until the publication of the mention of the grapplication has been refused or withdrawn or is deemed to be cominated by the person requesting the sample (Rule 28 (4)).  D. DESIGNATED STATES FOR WHICH INDICATION	e withdrawn, only by the issue of such a sample to an expense.  EPC).
	·
E. SEPARATE FURNISHING OF INDICATIONS (leave	· blank if not applicable)
E. SEPARATE FURNISHING OF INDICATIONS (leave The indications listed below will be submitted to the International Number of Deposit")	blank if not applicable) Bureau later (specify the general nature of the indications, e.g., "Acces.
The indications listed below will be submitted to the International Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., Access
E. SEPARATE FURNISHING OF INDICATIONS (leave The indications listed below will be submitted to the International Number of Deposit")  For receiving Office use only  This sheet was received with the international application	Bureau later (specify the general nature of the indications, e.g., "Access  For International Bureau use only  This sheet was received by the International Bureau on:

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

Applicant's or agent's	s fil	¢
reference number		

PS001PCT

International application to. Unassigned

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism refer on page 64 , line N/2	
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution American Type Culture Co	
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	try)
Date of deposit February 26, 1997	Accession Number 97899
C. ADDITIONAL INDICATIONS (leave blank if not applical	ble) This information is continued on an additional sheet
In respect to those designations in which a European Patent made available until the publication of the mention of the grapplication has been refused or withdrawn or is deemed to b nominated by the person requesting the sample (Rule 28 (4)	ant of the European patent or until the date on which
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)
	·
E. SEPARATE FURNISHING OF INDICATIONS (leave	· ·
The indications listed below will be submitted to the International F. Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer
Form PCT/RO/134 (July 1992)	

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

#### DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

#### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

	PS001PCT	International application	`°0.	Unassigned	
Applicant's or agent's file	PSOUTPCT	the state of the	. 4	general design of the second s	n in the property of the party of th
reference number					

# INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

. The indications made below relate to the microc on page 73	, line IVA
IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
nme of depositary institution American Typ	e Culture Collection
ddress of depositary institution (including postal 2301 Parklawn Drive ockville, Maryland 20852 inited States of America	code and country)
ate of deposit May 29, 1997	Accession Number 209084
	ank if not applicable) This information is continued on an additional sheet
. ADDITIONAL INDICATIONS (leave blo	аяк іј пот аррисаоте,
respect to those designations in which a Eu lade available until the publication of the me oplication has been refused or withdrawn or cominated by the person requesting the samp	propean Patent is sought a sample of the deposited microorganism will be ention of the grant of the European patent or until the date on which is deemed to be withdrawn, only by the issue of such a sample to an expert only (Rule 28 (4) EPC).
D. DESIGNATED STATES FOR WHICH	I INDICATIONS ARE MADE (if the indications are not for all designated States)
D. DESIGNATED STATES FOR WHICH	A INDICATIONS ARE MADE (if the indications are not for all designated States)  CATIONS (leave blank if not applicable)  the International Bureau later (specify the general nature of the indications, e.g., "Accessi

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

## **FINLAND**

Applicant	t's o	agent's	tile
reference	ทนก	ber	

PS(		

International application To. Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism reton page 80				
, into	<u>.</u>			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet			
Name of depositary institution American Type Culture (	Collection			
Address of depositary institution (including postal code and con	intry)			
12301 Parklawn Drive Rockville, Maryland 20852 United States of America				
Date of deposit February 26, 1997	Accession Number 97904			
C. ADDITIONAL INDICATIONS (leave blank if not applic				
in the state of th	able) This information is continued on an additional sheet			
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).				
	D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)			
E. SEPARATE FURNISHING OF INDICATIONS (leave	e blank if not applicable)			
	Burcau later (specify the general nature of the indications, e.g., "Accession			
For receiving Office use only	Professional			
This sheet was received with the international application	For International Bureau use only  This sheet was received by the International Bureau on:			
Authorized officer	Authorized officer			
orm PCT/RO/134 (July 1992)				

### UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

Applicant's	ОГ	agent's	file
-afarence n	··m	her	

PS001PCT

International application

No. Unassigned

with M. H. & M. spirit small

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred on page 64 , line N/A	ed to in the description		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet		
Name of depositary institution American Type Culture Coll	lection .		
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(y)		
Date of deposit February 26, 1997	Accession Number 97898		
C. ADDITIONAL INDICATIONS (leave blank if not applicate	ble) This information is continued on an additional sheet		
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).  D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)			
E. SEPARATE FURNISHING OF INDICATIONS (learn	ve blank if not applicable)		
The indications listed below will be submitted to the Internationa Number of Deposit")	al Burcau later (specify the general nature of the indications, e.g., "Accession		
	For International Bureau use only		
For receiving Office use only  This sheet was received with the international application	This sheet was received by the International Bureau on:		
Authorized officer	Authorized officer		

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

#### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

Applicant's or agent's file reference number	PS001PCT	International application	¹o.	Uı	nassigned	
reference namoei		Harry Hotel organization of	1 15	G*100.	Contract of the same	TOTAL MARKET STREET

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 77 , line N/A			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🖂		
Name of depositary institution American Type Culture Collect	tion		
Address of depositary institution (including postal code and country) 12301 Parklawn Drive Rockville, Maryland 20852 United States of America			
Date of deposit February 26, 1997 A	ccession Number 97903		
C. ADDITIONAL INDICATIONS (leave blank if not applicable)	This information is continued on an additional sheet		
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).			
D. DESIGNATED STATES FOR WHICH INDICATIONS	ARE MADE (if the indications are not for all designated States)		
	•		
E. SEPARATE FURNISHING OF INDICATIONS (leave blan			
The indications listed below will be submitted to the International Bure Number of Deposit")	au later (specify the general nature of the indications, e.g., "Accession		
For receiving Office use only	For International Bureau use only		
	This sheet was received by the International Bureau on:  Authorized officer		
Form PCT/RO/134 (July 1992)			

## UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

## **FINLAND**

International application

lo. Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referre on page 64 , line N/A	d to in the description
. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀
Name of depositary institution American Type Culture Coll	ection
Address of depositary institution ( <i>including postal code and countr</i> 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	·
Date of deposit February 26, 1997	Accession Number 97901
C. ADDITIONAL INDICATIONS (leave blank if not applicab	ble) This information is continued on an additional sheet
nominated by the person requesting the sample (Note 20 (1)	e withdrawn, only by the issue of such a sample to an expert () EPC).  ONS ARE MADE (if the indications are not for all designated States)
<del></del>	
E. SEPARATE FURNISHING OF INDICATIONS (leave	ve blank if not applicable)
The indications listed below will be submitted to the International Number of Deposit")	Burcau later (specify the general nature of the indications, e.g., "Accession of the indication of th
For receiving Office use only  This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

#### DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

#### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

## **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

## **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

## **FINLAND**

International application

o. Unassigned

the te thing along themes

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 65 , line N/A				
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀			
Name of depositary institution American Type Culture Collection				
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(יעי			
Date of deposit May 29, 1997	Accession Number 209085			
C. ADDITIONAL INDICATIONS (leave blank if not applicab	le) This information is continued on an additional sheet			
in respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).				
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)			
E. SEPARATE FURNISHING OF INDICATIONS (leave				
Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession			
For receiving Office use only	For International Bureau use only			
Authorized officer	This sheet was received by the International Bureau on:  Authorized officer			
Form PCT/RO/134 (July 1992)				

## UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

## **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

#### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

#### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

#### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

International application No. Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism refers on page 65 , line N/A	red to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀
Name of depositary institution American Type Culture Co	llection
Address of depositary institution (including postal code and coun 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	utry)
Date of deposit April 28, 1997	Accession Number 209010
C. ADDITIONAL INDICATIONS (leave blank if not applica	able) This information is continued on an additional sheet
nominated by the person requesting the sample (Rule 28 (4	be withdrawn, only by the issue of such a sample to an expert
E. SEPARATE FURNISHING OF INDICATIONS (lear	ve blank if not applicable)
The indications listed below will be submitted to the Internationa Number of Deposit")	al Bureau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

## **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

## **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

Form PCT/RO/134 (July 1992)

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism refer on page 73 , line N/.	
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution American Type Culture Co	ollection
Address of depositary institution (including postal code and cour 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	ntry)
Date of deposit September 4, 1997	Accession Number 209236
C. ADDITIONAL INDICATIONS (leave blank if not application)	able) This information is continued on an additional sheet
in respect to those designations in which a European Patent made available until the publication of the mention of the gi application has been refused or withdrawn or is deemed to be nominated by the person requesting the sample (Rule 28 (4))	grant of the European patent or until the date on which be withdrawn, only by the issue of such a sample to an expert
D. DESIGNATED STATES FOR WHICH INDICATION	ONS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING OF INDICATIONS (leave	e blank if not applicable)
The indications listed below will be submitted to the International Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession".
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer/	Authorized officer

### UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

). Unassigned 

# INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred on page 80 , line N/A	d to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀
Name of depositary institution	ection
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	y)
Date of deposit May 15, 1997	Accession Number 209050
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(le) This information is continued on an additional sheet
In respect to those designations in which a European Patent is made available until the publication of the mention of the gra application has been refused or withdrawn or is deemed to be nominated by the person requesting the sample (Rule 28 (4)).  D. DESIGNATED STATES FOR WHICH INDICATION	EPC).
E. SEPARATE FURNISHING OF INDICATIONS (leave	t blank if not applicable)
The indications listed below will be submitted to the International Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

### **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

J. Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred on page $\frac{77}{}$ , line $\frac{N/A}{}$	d to in the description			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀			
Name of depositary institution American Type Culture Collection				
Address of depositary institution (including postal code and country	y)			
12301 Parklawn Drive Rockville, Maryland 20852 United States of America				
Date of deposit May 15, 1997	Accession Number 209049 .			
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(e) This information is continued on an additional sheet			
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).				
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)				
E. SEPARATE FURNISHING OF INDICATIONS (leave				
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")				
For receiving Office use only	For International Bureau use only			
This sheet was received with the international application	This sheet was received by the International Bureau on:			
Authorized officer	Authorized officer			

### UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

Form PCT/RO/134 (July 1992)

International application

o. Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 76, line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🖂	
Name of depositary institution American Type Culture Collection		
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	y)	
Date of deposit May 15, 1997	Accession Number 209048	
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(e) This information is continued on an additional sheet	
n respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).  D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)		
E. SEPARATE FURNISHING OF INDICATIONS (leave The indications listed below will be submitted to the International Number of Deposit")	blank if not applicable) Bureau later (specify the general nature of the indications, e.g., "Accession"	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application	This sheet was received by the International Bureau on:	
Authorized officer	Authorized officer	

### **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 64 , line N/A			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🖂		
Name of depositary institution American Type Culture Col	lection		
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	77)		
Date of deposit May 15, 1997	Accession Number 209047		
C. ADDITIONAL INDICATIONS (leave blank if not applicab	le) This information is continued on an additional sheet		
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).			
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)		
····			
E. SEPARATE FURNISHING OF INDICATIONS (leave	blank if not applicable)		
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")			
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application	This sheet was received by the International Bureau on:		
Authorized officer  Form PCT/RO/134 (July 1992)	Authorized officer		

### UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the applicant is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

App	licant's	or	agent's	file
refer	ence ni	ım	her	

PS001PCT

International application 7.9. Unassigned

# INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 64 , line N/A			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🖂		
Name of depositary institution			
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	y)		
Date of deposit May 15, 1997	Accession Number 209046		
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(e) This information is continued on an additional sheet		
In respect to those designations in which a European Patent is made available until the publication of the mention of the gra application has been refused or withdrawn or is deemed to be nominated by the person requesting the sample (Rule 28 (4)).  D. DESIGNATED STATES FOR WHICH INDICATION	e withdrawn, only by the issue of such a sample to an expert EPC).		
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)  The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")			
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application	This sheet was received by the International Bureau on:		
Authorized officer  Form PCT/R0/134 (July 1992)	Authorized officer		

### **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

#### **FINLAND**

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 65 , line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀	
Name of depositary institution American Type Culture Collection		
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	y)	
Date of deposit May 15, 1997	Accession Number 209045 -	
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(e) This information is continued on an additional sheet	
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).  D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)		
•	·	
E. SEPARATE FURNISHING OF INDICATIONS (leave b	blank if not applicable)	
The indications listed below will be submitted to the International B Number of Deposit")	ureau later (specify the general nature of the indications, e.g., "Accession	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer	

## **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

International application No. Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 64 , line N/A			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet		
Name of depositary institution American Type Culture Collection			
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	· ·		
Date of deposit May 15, 1997	Accession Number 209044 .		
C. ADDITIONAL INDICATIONS (leave blank if not applicate	ble) This information is continued on an additional sheet		
nominated by the person requesting the sample (Rule 28 (4)	e withdrawn, only by the issue of such a sample to an expert		
**			
E. SEPARATE FURNISHING OF INDICATIONS (leave	e blank if not applicable)		
The indications listed below will be submitted to the International Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession		
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application	This sheet was received by the International Bureau on:		
Authorized office/	Authorized officer		

### **UNITED KINGDOM**

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### **DENMARK**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 65, line N/A.			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🖂		
Name of depositary institution American Type Culture Collection			
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	77)		
Date of deposit May 15, 1997	Accession Number 209043		
C. ADDITIONAL INDICATIONS (leave blank if not applicab	le) This information is continued on an additional sheet		
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).			
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)		
·			
E. SEPARATE FURNISHING OF INDICATIONS (leave	blank if not applicable)		
The indications listed below will be submitted to the International Number of Deposit")	Burcau later (specify the general nature of the indications, e.g., "Accession		
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application	This sheet was received by the International Bureau on:		
Authorized officer	Authorized officer		

### UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

### DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the applicant is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

### **SWEDEN**

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

### **NETHERLANDS**

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

### **NORWAY**

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

### **AUSTRALIA**

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

### **FINLAND**

Applicant's or agent's file eference number	PS001PCT	International application	າ. Unassigne	u 一字可可是充 医有 \$P\$ \$P\$
214141144	for a	 3000		

# INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 64 , line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet 🔀	
Name of depositary institution	llection	
Address of depositary institution (including postal code and counting 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	try)	
Date of deposit February 26, 1997	Accession Number 97900	
C. ADDITIONAL INDICATIONS (leave blank if not applica	This information is continued on an additional sheet	
nominated by the person requesting the sample (Kule 28 (4	be withdrawn, only by the issue of such a sample to an expert	
	Link if not amiliable)	
E. SEPARATE FURNISHING OF INDICATIONS (lean The indications listed below will be submitted to the Internationa Number of Deposit")	al Burcau later (specify the general nature of the indications, e.g., "Accessio	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application	This sheet was received by the International Bureau on:	
Authorized officer	Authorized officer	

Form PCT/RO/134 (July 1992)

- 20. A method for identifying a binding partner to the polypeptide of claim 11 comprising:
  - (a) contacting the polypeptide of claim 11 with a binding partner; and
- 5 (b) determining whether the binding partner effects an activity of the polypeptide.
  - 21. The gene corresponding to the cDNA sequence of SEQ ID NO:Y.
- 10 22. A method of identifying an activity in a biological assay, wherein the method comprises:
  - (a) expressing SEQ ID NO:X in a cell;
  - (b) isolating the supernatant;
  - (c) detecting an activity in a biological assay; and
- 15 (d) identifying the protein in the supernatant having the activity.
  - 23. The product produced by the method of claim 22.

- (g) a variant of SEQ ID NO:Y;
- (h) an allelic variant of SEQ ID NO:Y; or
- (i) a species homologue of the SEQ ID NO:Y.
- The isolated polypeptide of claim 11, wherein the secreted form or the
   full length protein comprises sequential amino acid deletions from either the C-terminus or the N-terminus.
  - 13. An isolated antibody that binds specifically to the isolated polypeptide of claim 11.
- 14. A recombinant host cell that expresses the isolated polypeptide of claim 11.
  - 15. A method of making an isolated polypeptide comprising:
  - (a) culturing the recombinant host cell of claim 14 under conditions such that said polypeptide is expressed; and
    - (b) recovering said polypeptide.
    - 16. The polypeptide produced by claim 15.

35

10

15

- 17. A method for preventing, treating, or ameliorating a medical condition, comprising administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 11 or the polynucleotide of claim 1.
- 25 18. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:
  - (a) determining the presence or absence of a mutation in the polynucleotide of claim 1; and
- (b) diagnosing a pathological condition or a susceptibility to a pathologicalcondition based on the presence or absence of said mutation.
  - 19. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:
  - (a) determining the presence or amount of expression of the polypeptide of claim 11 in a biological sample; and
  - (b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

4. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises the entire nucleotide sequence of SEQ ID NO:X or the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X.

5

30

35

- 5. The isolated nucleic acid molecule of claim 2, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.
- 10 6. The isolated nucleic acid molecule of claim 3, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.
- 7. A recombinant vector comprising the isolated nucleic acid molecule of claim 1.
  - 8. A method of making a recombinant host cell comprising the isolated nucleic acid molecule of claim 1.
- 9. A recombinant host cell produced by the method of claim 8.
  - 10. The recombinant host cell of claim 9 comprising vector sequences.
- 11. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:
  - (a) a polypeptide fragment of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;
  - (b) a polypeptide fragment of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z, having biological activity;
  - (c) a polypeptide domain of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;
    - (d) a polypeptide epitope of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;
  - (e) a secreted form of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;
    - (f) a full length protein of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

10

15

20

35

### What Is Claimed Is:

- 1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:
- (a) a polynucleotide fragment of SEQ ID NO:X or a polynucleotide fragment of the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
- (b) a polynucleotide encoding a polypeptide fragment of SEQ ID NO:Y or a polypeptide fragment encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
  - (c) a polynucleotide encoding a polypeptide domain of SEQ ID NO:Y or a polypeptide domain encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
  - (d) a polynucleotide encoding a polypeptide epitope of SEQ ID NO:Y or a polypeptide epitope encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
  - (e) a polynucleotide encoding a polypeptide of SEQ ID NO:Y or the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X, having biological activity;
    - (f) a polynucleotide which is a variant of SEQ ID NO:X;
    - (g) a polynucleotide which is an allelic variant of SEQ ID NO:X;
    - (h) a polynucleotide which encodes a species homologue of the SEQ ID NO:Y;
- (i) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(h), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A residues or of only T residues.
- The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding a secreted protein.
  - 3. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding the sequence identified as SEQ ID NO:Y or the polypeptide encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X.

			4
Applicant's	AF 984	ent's file	
White are a	OI WE	Jill 3 IIIC	
reference ni	umber		

3001PCT

International application

Unassigned C

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

A. The indications made below relate to the microorganism referred to in the description on page 64 , line N/A .				
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet			
Name of depositary institution  American Type Culture Collection				
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	)			
Date of deposit May 15, 1997	Accession Number 209047			
C. ADDITIONAL INDICATIONS (leave blank if not applicable)  This information is continued on an additional sheet  D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)				
E. SEPARATE FURNISHING OF INDICATIONS (leave	blank if not applicable)			
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")				
For receiving Office use only  Authorized officer  Form PCT/RO/134 (July 1992)	This sheet was received by the International Bureau on:  Authorized officer			

Applicant's or agent's file reference number

S001PCT

International application

Unassigned

......

# INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 82 . line N/A				
B. IDENTIFICATION OF D	EPOSIT	Further deposits are identified on an additional sheet		
Name of depositary institution American Type Culture Collection				
Address of depositary institution 12301 Parkiawn Drive Rockville, Maryland 20852 United States of America	(including postal code and count	(vr)		
Date of deposit April 4, 1997	,	Accession Number 97976		
C. ADDITIONAL INDICA	TIONS (leave blank if not applicab	This information is continued on an additional sheet		
D. DESIGNATED STATES	FOR WHICH INDICATIO	NS ARE MADE (if the indications are not for all designated States)		
D. D2510.1112				
TOP A DATE FURNISHI	NC OF INDICATIONS	e blank if not applicable)		
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)  The indications listed below will be submitted to the international Bureau later (specify the general nature of the indications, e.g., "Access Number of Deposit")				
East associate	g Office use only	For International Bureau use only		
	h the international application	This sheet was received by the International Bureau on:		
Authorized officer	>	Authorized officer		

Form PCT/RO/134 (July 1992)\_

Applicant's or agent's file reference number	S001PCT	International application	Unassigned	

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 80 . line N/A .				
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet			
Name of depositary institution  American Type Culture Collection				
Address of depositary institution (including postal code and country) 12301 Parklawn Drive Rockville, Maryland 20852 United-States of America				
Date of deposit May 15, 1997 Acce	ession Number 20 <b>90</b> 50			
C. ADDITIONAL INDICATIONS (leave blank if not applicable)	This information is continued on an additional sheet			
D. DESIGNATED STATES FOR WHICH INDICATIONS A	RE MADE (if the indications are not for all designated States)			
E. SEPARATE FURNISHING OF INDICATIONS (leave blank	if not applicable)			
The indications listed below will be submitted to the International Burea Number of Deposit")	u latet (specify the general nature of the indications. e.g., "Accession			
For receiving Office use only For International Bureau use only				
This sheet was received with the international application	This sheet was received by the International Bureau on:			
Authorized officer	uthorized officer			

Form PCT/RO/134 (July 1992)

_	_	_
7	7	7

Applicant's or agent's file reference number

S001PCT

international application

Unassigned

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 80 . line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet	
Name of depositary institution  American Type Culture Colle	ection	
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	y)	
Date of deposit February 26, 1997	Accession Number 97904	
C. ADDITIONAL INDICATIONS (leave blank if not applicable	This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave	blank if not applicable)	
The indications listed below will be submitted to the international Number of Deposit")	Burcau later (specify the general nature of the indications, e.g., "Accession	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application	This sheet was received by the international Bureau on:	
Authorized officer	Authorized officer	

Applicant's or agent's file	
reference number	

S001PCT

International application

Unassigned

#### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 77 line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet	
Name of depositary institution  American Type Culture Col	lection	
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(יכי	
Date of deposit May 15, 1997	Accession Number 209049	
C. ADDITIONAL INDICATIONS (leave blank if not applicab	le) This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (If the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)  The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")		
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer	

	37	5	
Applicant's or agent's file	S001PCT	International application	Unassigned Carter E
reference number			

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 77 . line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet	
Name of depositary institution  American Type Culture Col	llection	
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(rv)	
Date of deposit February 26, 1997	Accession Number 97903	
C. ADDITIONAL INDICATIONS (leave blank if not applications)	ble) This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDICATION	ONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave	e blank if not applicable)	
	Bureau later (specify the general nature of the indications, e.g., "Accession	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer	

Applicant's or agent's file reference number	S001PCT	International application	Unassigned	

#### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 76 . line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet	
Name of depositary institution  American Type Culture	: Collection	
Address of depositary institution (including postal code and d	country)	
12301 Parklawn Drive Rockville, Maryland 20852 United States of America		
Date of deposit February 26, 1997	Accession Number 97902	
C. ADDITIONAL INDICATIONS (leave blank if not ap)	plicable) This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDICA'	TIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS		
The indications listed below will be submitted to the international Number of Deposit")	ional Burçau later (specify the general nature of the indications, e.g., "Accession	
,		
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application	This sheet was received by the International Bureau on:	
Authorized officer	Authorized officer	

	J.	<i>1</i> 3		
Applicant's or agent's file reference number	S001PCT	International application	Unassigned	

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 76 . line N/A		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet	
Name of depositary institution American Type Cultu	ure Collection	
Address of depositary institution (including postal code an 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	nd country)	
Date of deposit May 15, 1997	Accession Number 209048	
C. ADDITIONAL INDICATIONS (leave blank if not	applicable) This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDIC	CATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATION	NS (leave blank if not applicable)	
The indications listed below will be submitted to the International Number of Deposit")	national Bureau later (specify the general nature of the indications, e.g., "Accessic	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application	. <u>.</u>	

Form PCT/RO/134 (July 1992)

		<u> </u>	
Applicant's or agent's tile	SOOIPCT	International application	Unassigned
reference number			· · · · · · · · · · · · · · · · · · ·

#### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 73 . line N/A .		
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet	
Name of depositary institution  American Type Culture Collection		
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	ry)	
Date of deposit May 29, 1997	Accession Number 209084	
C. ADDITIONAL INDICATIONS (leave blank if not applicable	This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave		
The indications listed below will be submitted to the international Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession	
For receiving Office use only	For International Bureau use only	
This sheet was received with the international application	This sheet was received by the International Bureau on:	
Authorized office	Authorized officer	

	371			
Applicant's or agent's file reference number	S001PCT	International application	Unassigned	120

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 73 line N/A			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet		
Name of depositary institution American Type Culture Col	lection		
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(v)		
Date of deposit September 4, 1997	Accession Number 209236		
C. ADDITIONAL INDICATIONS (leave blank if not applicable	ole) This information is continued on an additional sheet		
D. DESIGNATED STATES FOR WHICH INDICATIO	NS ARE MADE (if the indications are not for all designated States)		
E. SEPARATE FURNISHING OF INDICATIONS (leave			
The indications listed below will be submitted to the international Number of Deposit")	Burcau later (specify the general nature of the indications, e.g., "Accession		
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application	This sheet was received by the International Bureau on:		
Form PCT/RO/13 (July 1992)	Authorized officer		

Applicant's or agent's file reference number	PS001PCT	International applicatio	Unassigned	The second secon

#### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 65 . line N/A					
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet				
Name of depositary institution  American Type Culture Coll	lection				
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(ب <del>ر</del>				
Date of deposit May 15, 1997	Accession Number 209043				
C. ADDITIONAL INDICATIONS (leave blank if not applicable	(e) This information is continued on an additional sheet				
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)				
E. SEPARATE FURNISHING OF INDICATIONS (leave					
The indications listed below will be submitted to the international Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")					
For receiving Office use only	For International Bureau use only				
This sheet was received with the international application	This sheet was received by the International Bureau on:				
Authorized officer	Authorized officer				

	36	9		
Applicant's or agent's file	SOOIPCT	International application	Unassigned	
reference number				

(PCT Rule 13bis)

	ns made below relate to the microorganism refers	red to in the description
B. IDENTIFIC	ATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of deposita	ry institution American Type Culture Co	llection
Address of depos 12301 Parklaw Rockville. Mar United States o	viand 20852	stry)
Date of deposit	February 26, 1997	Accession Number 97897
C. ADDITION	NAL INDICATIONS (leave blank if not applica	This information is continued on an additional sheet
D. DESIGNA	TED STATES FOR WHICH INDICATION	ONS ARE MADE (if the indications are not for all designated States)
F SEPARAT	E FURNISHING OF INDICATIONS (lea	rve blank if not applicable)
The indications Number of Deposi	listed below will be submitted to the international	ai Bureau later (specify the general nature of the indications, e.g., "Accessio
	For receiving Office use only	For International Bureau use only
This sheet	t was received with the international application	This sheet was received by the International Bureau on:
Authorized office		Authorized officer

Applicant's or agent's file reference number	'S001PCT 368	international application	Unassigned	To the second second
(01010100 110111001				

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 65 . line N/A			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet		
Name of depositary institution  American Type Culture Col	lection		
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(אי		
Date of deposit May 29, 1997	Accession Number 209085		
C. ADDITIONAL INDICATIONS (leave blank if not applicable	This information is continued on an additional sheet		
D. DESIGNATED STATES FOR WHICH INDICATIO	NS ARE MADE (if the indications are not for all designated States)		
E. SEPARATE FURNISHING OF INDICATIONS (leave The indications listed below will be submitted to the International Number of Deposit")	e blank if not applicable)  Bureau later (specify the general nature of the indications, e.g., "Accession		
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer		

	3(	57	
Applicant's or agent's tile	S001PCT	International application	Unassigned
reference number			

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referron page 65 . line N/A	ed to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution  American Type Culture Col	ilection
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(עָד:
Date of deposit April 28, 1997	Accession Number 209010
C. ADDITIONAL INDICATIONS (leave blank if not applicable	This information is continued on an additional sheet
D. DESIGNATED STATES FOR WHICH INDICATIO	NS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING OF INDICATIONS (leave	e blank if nos applicable)
	Bureau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

Applicant's or agent's file reference number

'S001PCT

International application

Unassigned

#### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page 64 . line N/A .			
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet		
Name of depositary institution  American Type Culture Co	ellection		
Address of depositary institution (including postal code and county) 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	ury)		
Date of deposit May 15, 1997	Accession Number 209046		
C. ADDITIONAL INDICATIONS (leave blank if not application)	This information is continued on an additional sheet		
D. DESIGNATED STATES FOR WHICH INDICATION	ONS ARE MADE (if the indications are not for all designated States)		
E. SEPARATE FURNISHING OF INDICATIONS (leave			
The indications listed below will be submitted to the international Number of Deposit")	Bureau later (specify the general nature of the indications, e.g., "Accession		
For receiving Office use only	For International Bureau use only		
This sheet was received with the international application	This sheet was received by the International Bureau on:		
Authorized officer	Authorized officer		

	365			
Applicant's or agent's file	S001PCT	International application	Unassigned.	
reference number		<u> </u>		

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred on page 64 . line N/A	ed to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution  American Type Culture Col	lection
Address of depositary institution (including postal code and country 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	(ייי
Date of deposit February 26, 1997	Accession Number 97900
C. ADDITIONAL INDICATIONS (leave blank if not applicable)  D. DESIGNATED STATES FOR WHICH INDICATION	DNS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING OF INDICATIONS (leave The indications listed below will be submitted to the International Number of Deposit")	re blank if not applicable) I Bureau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only  This sheet was received with the international application  Authorized officer	This sheet was received by the International Bureau on:  Authorized officer

Applicant's or agent's file reference number	PS001PCT	International applicatio	Unassigned
I GLOT DITOT TIBELLO VI		<u> </u>	

(PCT Rule 13bis)

A. The indications made below relate to the microon on page 65	rganism referred to in the description . tine N/A .
. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution American Type	e Culture Collection
Address of depositary institution (including postal c	ode and country)
12301 Parkiawn Drive Rockville, Maryland 20852 United States of America	
Date of deposit May 15, 1997	Accession Number 209045
C. ADDITIONAL INDICATIONS (leave blane	ik if not applicable) This information is continued on an additional sheet
	•
D. DESIGNATED STATES FOR WHICH I	NDICATIONS ARE MADE (if the indications are not for all designated States)
	<del></del>
	TIONS
E. SEPARATE FURNISHING OF INDICA  The indications listed below will be submitted to the	I IONS (leave blank if not applicable)  International Bureau later (specify the general nature of the indications, e.g., "Accessing the second
Number of Deposit")	
For receiving Office use only	For International Bureau use only
This sheet was received with the international app	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

	202			
Applicant's or agent's tile	S001PCT	International application	Unassigned	The second second
reference number				

# INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred on page 64 . line N/A	ed to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution  American Type Culture Col	lection
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	ריי)
Date of deposit February 26, 1997	Accession Number 97899
C. ADDITIONAL INDICATIONS (leave blank if not applicate	ble) This information is continued on an additional sheet
D. DESIGNATED STATES FOR WHICH INDICATION	ONS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING OF INDICATIONS (leav	e blank if not applicable)
The indications listed below will be submitted to the international Number of Deposit")	Burcau later (specify the general nature of the indications, e.g., "Accessio
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

	36	2		
Applicant's or agent's file	'S001PCT	International application	Unassigned.	**************************************
reference number		1		·

(PCT Rule 13bis)

A.	The indica	ntions made below relate to th	he microorganism referm . line N/A	
B.	IDENTIF	TICATION OF DEPOSIT	Γ	Further deposits are identified on an additional sheet
Na	me of depos	sitary institution Americ	can Type Culture Col	lection
12 Ro	2301 Parkla ockville, M	positary institution ( <i>including</i> awn Drive laryland 20852 s of America	z postal code and count	· ·
Da	te of deposi	и Мау 15, 1997	,	Accession Number 209044
C.	ADDITIO	ONAL INDICATIONS	leave blank if not applicab	This information is continued on an additional sheet
D.	DESIGN	ATED STATES FOR W	HICH INDICATION	NS ARE MADE (if the indications are not for all designated States)
1		TE FURNISHING OF I		
The Number	e indication: mber of Depa	s listed below will be submitt	ed to the international i	Bureau later (specify the general nature of the indications, e.g., "Accession
_		For receiving Office us	se only	For International Bureau use only
	This show	et was received with the internat	tional application	This sheet was received by the International Bureau on:
Au	thorized offic			Authorized officer

Form PCT/RO/134 (July 1992)

	361		
Applicant's or agent's file	.3S001PCT	International applicatio.	Unassigned
reference number			

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism refers on page 64 . line N/A	red to in the description
B. IDENTIFICATION OF DEPOSIT	Further deposits are identified on an additional sheet
Name of depositary institution American Type Culture Co	llection
Address of depositary institution (including postal code and count 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	try)
Date of deposit February 26, 1997	Accession Number 97898
C. ADDITIONAL INDICATIONS (leave blank if not applicate	ble) This information is continued on an additional sheet
D. DESIGNATED STATES FOR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING OF INDICATIONS (leave	e blank if not applicable)
	Burcau later (specify the general nature of the indications, e.g., "Accession
For receiving Office use only	For International Bureau use only
This sheet was received with the international application	This sheet was received by the International Bureau on:
Authorized officer	Authorized officer

Applicant's or agent's file	:

### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relation page 64	e to the microorganism referre	
B. IDENTIFICATION OF DEP	OSIT	Further deposits are identified on an additional sheet
Name of depositary institution A	merican Type Culture Col	lection
Address of depositary institution (inc 12301 Parklawn Drive Rockville, Maryland 20852 United States of America	luding postal code and count	(יער
Date of deposit February 26, 19	<del></del>	Accession Number 97901
C. ADDITIONAL INDICATION	NS (leave blank if not applicab	te) This information is continued on an additional sheet
D. DESIGNATED STATES FO	OR WHICH INDICATION	NS ARE MADE (if the indications are not for all designated States)
E. SEPARATE FURNISHING	OF INDICATIONS (leave	blank if not applicable)
		Burcau later (specify the general nature of the indications, e.g., "Accession
For receiving Of	fice use only	For International Bureau use only
This sheet was received with the	international application	This sheet was received by the International Bureau on:
M)		

```
Ser Ile Leu Gly Ile Ile Ser Val Pro Leu Ser Ile Gly Tyr Cys Ala
                                           10
      Ser Lys His Ala Leu Arg Gly Phe Phe Asn Gly Leu Arg
5
      (2) INFORMATION FOR SEQ ID NO: 270:
10
             (i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 8 amino acids
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:
15
      Met Ala Tyr His Gly Leu Thr Val
                        5
20
      (2) INFORMATION FOR SEQ ID NO: 271:
             (i) SEQUENCE CHARACTERISTICS:
25
                     (A) LENGTH: 6 amino acids
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 271:
30
      Ile Ser Ala Ala Arg Val
35
      (2) INFORMATION FOR SEQ ID NO: 272:
             (i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 11 amino acids
                     (B) TYPE: amino acid
40
                     (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 272:
      Pro Asp Val Ser Glu Phe Met Thr Arg Leu Phe
                        5
45
      (2) INFORMATION FOR SEQ ID NO: 273:
              (i) SEQUENCE CHARACTERISTICS:
50
                     (A) LENGTH: 17 amino acids
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 273:
55
      Phe Asp Pro Val Arg Val Asp Ile Thr Ser Lys Gly Lys Met Arg Ala
                                           10
                        5
      Arg
```

```
(D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:
     Pro Ser Ala Lys Tyr Phe Phe Lys Met Ala Phe Tyr Asn Gly Trp Ile
 5
     Leu Phe Leu Ala Val Leu Ala Ile Pro Val Cys Ala Val Arg Gly Arg
10
     Asn Val Glu Asn Met Lys Ile Leu Arg Leu Met Leu Leu His Ile Lys
      Tyr Leu Tyr Gly Ile Arg Val Glu Val Arg Gly Ala His His Phe Pro
15
      Pro Ser Gln Pro Tyr Val Val Val Ser Asn His Gln Ser Ser Leu Asp
      Leu Leu Gly Met Met Glu Val Leu Pro Gly Arg Cys Val Pro Ile Ala
20
      Lys Arg
25
      (2) INFORMATION FOR SEQ ID NO: 267:
             (i) SEQUENCE CHARACTERISTICS:
30
                    (A) LENGTH: 9 amino acids
                     (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:
35
      Thr Val Phe Arg Glu Ile Ser Thr Asp
40
      (2) INFORMATION FOR SEQ ID NO: 268:
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 11 amino acids
                     (B) TYPE: amino acid
45
                     (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:
      Leu Trp Ala Gly Ser Ala Gly Trp Pro Ala Gly
50
      (2) INFORMATION FOR SEQ ID NO: 269:
55
              (i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 29 amino acids
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:
```

```
(D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 263:
     Cys Lys Cys Leu Thr Gly Phe Thr Gly Gln Lys Cys
5
                       5
      (2) INFORMATION FOR SEQ ID NO: 264:
10
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 12 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:
15
      Cys Gln Cys Leu Gln Gly Phe Thr Gly Gln Tyr Cys
                      5
20
      (2) INFORMATION FOR SEQ ID NO: 265:
             (i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 127 amino acids
25
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:
      Gly Leu Ala Cys Trp Leu Ala Gly Val Ile Phe Ile Asp Arg Lys Arg
30
      Thr Gly Asp Ala Ile Ser Val Met Ser Glu Val Ala Gln Thr Leu Leu
35
      Thr Gln Asp Val Xaa Val Trp Val Phe Pro Glu Gly Thr Arg Asn His
                                   40
      Asn Gly Ser Met Leu Pro Phe Lys Arg Gly Ala Phe His Leu Ala Val
40
      Gln Ala Gln Val Pro Ile Val Pro Ile Val Met Ser Ser Tyr Gln Asp
       65
      Phe Tyr Cys Lys Lys Glu Arg Arg Phe Thr Ser Gly Gln Cys Gln Val
45
      Arg Val Leu Pro Pro Val Pro Thr Glu Gly Leu Thr Pro Asp Asp Val
                                       105
                  100
50
       Pro Ala Leu Ala Asp Arg Val Arg His Ser Met Leu His Cys Phe
                                   120
 55
       (2) INFORMATION FOR SEQ ID NO: 266:
              (i) SEQUENCE CHARACTERISTICS:
```

(A) LENGTH: 98 amino acids
(B) TYPE: amino acid

```
315
                          310
     305
                                                                  320
     Ala Glu Pro Pro Leu Glu Trp Pro Phe Pro Asp Leu Ser Ser Glu Pro
                      325
                                          330
5
     Leu Cys Arg Gly Pro Ile Leu Pro Leu Gln Ala Asn Leu Thr Arg Lys
     Gly Gly Trp Leu Pro Thr Gly Ser Pro Ser Val Ile Leu Gln Asp Arg
10
                                  360
     Tyr Ser Gly
         370
15
      (2) INFORMATION FOR SEQ ID NO: 260:
             (i) SEQUENCE CHARACTERISTICS:
20
                    (A) LENGTH: 12 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:
      Cys Arg Cys Ala Ser Gly Phe Thr Gly Glu Asp Cys
25
30
      (2) INFORMATION FOR SEQ ID NO: 261:
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 12 amino acids
                     (B) TYPE: amino acid
35
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 261:
      Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys
        1
40
      (2) INFORMATION FOR SEQ ID NO: 262:
45
             (i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 12 amino acids
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 262:
50
      Cys Leu Asn Leu Pro Gly Ser Tyr Gln Cys Gln Cys
                    5
                                           10
55
      (2) INFORMATION FOR SEQ ID NO: 263:
             (i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 12 amino acids
60
                     (B) TYPE: amino acid
```

#### (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 259:

5	Met 1	Glu	Leu	Glu	Leu 5	Asp	Ala	Gly	Asp	Gln 10	Asp	Leu	Leu	Ala	Phe 15	Leu
3	Leu	Glu	Glu	Ser 20	Gly	Asp	Leu	Gly	Thr 25	Ala	Pro	Asp	Glu	Ala 30	Val	Arg
10	Ala	Pro	Leu 35	Asp	Trp	Ala	Leu	Pro 40	Leu	Ser	Glu	Val	Pro 45	Ser	Asp	Trr
	Glu	Val 50	Asp	Asp	Leu	Leu	Cys 55	Ser	Leu	Leu	Ser	Pro 60	Pro	Ala	Ser	Leu
15	Asn 65	Ile	Leu	Ser	Ser	Ser 70	Asn	Pro	Cys	Leu	<b>Val</b> 75	His	His	Asp	His	Thr 80
20	Tyr	Ser	Leu	Pro	Arg 85	Glu	Thr	Val	Ser	Met 90	Asp	Leu	Glu	Ser	Glu 95	Ser
-	Cys	Arg	Lys	Glu 100	Gly	Thr	Gln	Met	Thr 105	Pro	Gln	His	Met	Glu 110	Glu	Leu
25	Ala	Glu	Gln 115	Glu	Ile	Ala	Arg	Leu 120	Val	Leu	Thr	Asp	Glu 125	Glu	Lys	Ser
	Leu	Leu 130	Glu	Lys	Glu	Gly	Leu 135	Ile	Leu	Pro	Glu	Thr 140	Leu	Pro	Leu	Thr
30	Lys 145	Thr	Glu	Glu	Gln	Ile 150	Leu	Lys	Arg	Val	Arg 155	Arg	Lys	Ile	Arg	Asn 160
35	Lys	Arg	Ser	Ala	Gln 165	Glu	Ser	Arg	Arg	Lys 170	Lys	Lys	Val	Tyr	Val 175	Gly
	Gly	Leu	Glu	Ser 180	Arg	Val	Leu	Lys	<b>Tyr</b> 185	Thr	Ala	Gln	Asn	Met 190	Glu	Leu
40	Gln	Asn	Lys 195	Val	Gln	Leu	Leu	Glu 200	Glu	Gln	Asn	Leu	Ser 205	Leu	Leu	Asp
	Gln	Leu 210	Arg	Lys	Leu	Gln	Ala 215	Met	Val	Ile	Glu	Ile 220	Ser	Asn	Lys	Thr
45	Ser 225	Ser	Ser	Ser	Thr	Cys 230	Ile	Leu	Val	Leu	Leu 235	Val	Ser	Phe	Суѕ	Leu 240
50	Leu	Leu	Val	Pro	Ala 245	Met	Tyr	Ser	Ser	<b>Asp</b> 250	Thr	Arg	Gly	Ser	Leu 255	Pro
50	Ala	Glu	His	Gly 260	Val	Leu	Ser	Arg	Gln 265	Leu	Arg	Ala	Leu	Pro 270	Ser	Glu
55	Asp	Pro	Tyr 275	Gln	Leu	Glu	Leu	Pro 280	Ala	Leu	Gln	Ser	Glu 285	Val	Pro	Lys
	Asp	Ser 290	Thr	His	Gln	Trp	Leu 295	Asp	Gly	Ser	Asp	Cys 300	Val	Leu	Gln	Ala
60	Pro	Glv	Asn	Thr	Ser	Cys	Leu	Leu	His	Tyr	Met	Pro	Gln	Ala	Pro	Ser

	GAGAATCTCA	CCCTGGGGAT	ACGGGAAAGC	AGGAAGGAGG	ATGAGGGATG	GTACCTTATG	420
5	ACCCTGGAGA	AAAATGTTTC	AGTTCAGCGC	TTTTGCCTGC	AGTTGAGGCT	TTATGAGCAG	480
5	GTCTCCACTC	CAGAAATTAA	AGTTTTAAAC	AAGACCCAGG	AGAACGGGAC	CTGCACCTTG	540
	ATACTGGGCT	GCACAGTGGA	GAAGGGGGAC	CATGTGGCTT	ACAGCTGGAG	TGAAAAGGCG	600
10	GGCACCCACC	CACTGAACCC	AGCCAACAGC	TCCCACCTCC	TGTCCCTCAC	CCTCGGCCCC	660
	CAGCATGCTG	ACAATATCTA	CATCTGCACC	GTGAGCAACC	CTATCAGCAA	CAATTCCCAG	720
15	ACCTTCAGCC	CGTGGCCCGG	ATGCAGGACA	GACCCCTCAG	AAACAAAACC	ATGGGCAGTG	780
13	TATGCTGGGC	TGTTAGGGGG	TGTCATCATG	ATTCTCATCA	TGGTGGTAAT	ACTACAGTTG	840
	AGAAGAAGAG	GTAAAACGAA	CCATTACCAG	ACAACAGTGG	AAAAAAAAG	CCTTACGATC	900
20	TATGCCCAAG	TCCAGAAACC	AGGTGACACT	CATCATCAGA	CTTCGGACTT	ATTCTAATCC	960
	AGGATGACCT	TATTTTGAAA	TCCTTATCTT	GACATCTGTG	AAGACCTTTA	TTCAAATAAA	1020
25	GTCACATTTT	GACATTCTGC	GAGGGGCTGG	AGCCGGGCCG	GGGCGATGTG	GAGCGCGGGC	1080
	ceceeces	CTGCCTGGCC	GCTCCTCTTC	GGCTGCTGC	TGGCGCTGTT	AGTGCCGGGC	1140
	CCTCCTCCCC	CCAAGACCGG	TGCGGAGCTC	GTGACTGCGG	GTCGGTGCTG	AAGCTGCTCA	1200
30	ATACGCACCA	CCGGTGCGGC	TGCACTCGCA	CGACATCAAA	TACGGATCCG	GCAGCGGCCA	1260
	GCAATCGGTG	ACCGGCGTAG	AGGTCGGAGC	GACGAATAGC	TACTGGCGGA	TCCGCGGCGG	1320
35	CTCGGAGGGG	GGTGCCCGCG	CGGGTCCCCG	GTGCGCTGCG	GGCAGGCGGT	GAGGTCACAC	1380
	ATGTGCTTAC	GGGCAAGAAC	CTGCACACGC	ACCACTTCCC	GTCGCCGCTG	TCCAACAACC	1440
	AGGAAGTGAG	TGCCAAAGGG	GAAGACGGCG	AGGGCGACGA	CCTGGACCTA	TGGACAGTGC	1500
40	GCTGCTCTGC	TCTGGACAGC	ACTGGGAGCG	TGAGGCTGCT	GTGGCGCCTT	CCAGCATGTG	1560
	GCACCTCTGT	GGTTCCTGTC	AGTCACGGTA	GCAGTATGGA	AGCCCCATCC	GTGGGCAGCA	1620
45	TGAGGTCCAC	GCATGCCCAG	TGCCAACACG	CACAATACGT	GGAAGGCCAT	GGAAGGCATC	1680
	TTCATCAAGC	CTAGTGTGGA	GCCCTCTGCA	GGTCACGATG	AACTCTGAGT	GTGTGGATGG	1740
	ATGGGTGGAT	GGAGGGTGGC	AGGTGGGGCG	TCTGCAGGGC	CACTCTTGGC	AGAGACTTTG	1800
50	CCTTTTTCTTACC	CCTCCTCAAC	ACCCULATACAC	аттааасаат	CTTICTTOTAT	GA	1852

#### 55 (2) INFORMATION FOR SEQ ID NO: 259:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 371 amino acids

(B) TYPE: amino acid

60 (D) TOPOLOGY: linear

	(i) SEQUENCE CHARACTERISTICS:	
	<ul><li>(A) LENGTH: 93 amino acids</li><li>(B) TYPE: amino acid</li></ul>	
	(D) TOPOLOGY: linear	
5	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 256:	
	Met Ile His Leu Gly His Ile Leu Phe Leu Leu Leu Pro Val Ala	
	1 5 10 15	
10	Ala Ala Gln Thr Thr Pro Gly Glu Arg Ser Ser Leu Pro Ala Phe Tyr	
10	20 25 30	
	Pro Gly Thr Ser Gly Ser Cys Ser Gly Cys Gly Ser Leu Ser Leu Pro	
	35 40 45	
15	Leu Leu Ala Gly Leu Val Ala Ala Asp Ala Val Ala Ser Leu Leu Ile	
	50 55 60	
20	Val Gly Ala Val Phe Leu Cys Ala Arg Pro Arg Arg Ser Pro Ala Gln 65 70 75 80	
20	<b>V</b> 3	
	Asp Gly Lys Val Tyr Ile Asn Met Pro Gly Arg Gly Xaa 85 90	
	65	
25		
	(2) INFORMATION FOR SEQ ID NO: 257:	
30	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 12 amino acids	
30	(B) TYPE: amino acid	
	(D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 257:	
35	Pro Gly His Leu Leu Pro His Lys Trp Glu Asn Cys	
	1 5 10	
40	10) TIPOTHARTON FOR CEO ID NO. 258.	
40	(2) INFORMATION FOR SEQ ID NO: 258:	
	(i) SEQUENCE CHARACTERISTICS:	
	(A) LENGTH: 1852 base pairs (B) TYPE: nucleic acid	
45	(C) STRANDEDNESS: double	
	(D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 258:	
		60
50	TGGCATCTGT GAGCAGCTGC CAGGCTCCGG CCAGGATCCC TTCCTTCTCC TCATTGGCTG	00
	ATGGATCCCA AGGGGCTCCT CTCCTTGACC TTCGTGCTGT TTCTCTCCCT GGCTTTTGGG	120
	GCAAGCTACG GAACAGGTGG GCGCATGATG AACTGCCCAA AGATTCTCCG GCAGTTGGGA	180
55		
55	AGCAAAGTGC TGCTGCCCCT GACATATGAA AGGATAAATA AGAGCATGAA CAAAAGCATC	240
	CACATTGTCG TCACAATGGC AAAATCACTG GAGAACAGTG TCGAGAACAA AATAGTGTCT	300
		200
60	CTTGATCCAT CCGAAGCAGG CCCTCCACGT TATCTAGGAG ATCGCTACAA GTTTTATCTG	360

	Pro 145	Leu	Thr	Gly	Trp	Lys 150	Ser	Pro	Ala	Ser	Leu 155	Thr	Met	Ser	Gly	Met 160
5	Ala	G1y	Leu	Phe	Ser 165	Ile	Ser	Gly	Lys	Ile 170	Trp	His	Leu	His	Asn 175	Tyr
10	Phe	Thr	Val	Thr 180	Leu	Gly	Ile	Pro	Ala 185	Trp	Cys	Ser	Tyr	Val 190	Phe	Phe
10	Val	Ile	Ala 195	Thr	Leu	Val	Phe	Gly 200	Leu	Phe	Met	Gly	Leu 205	Val	Leu	Val
15	Val	Ile 210	Ser	Glu	Суѕ	Phe	Tyr 215	Val	Pro	Leu	Pro	Arg 220	His	Leu	Ser	Glu
	Arg 225	Ser	Glu	Gln	Asn	<b>Ar</b> g 230	Arg	Ser	Glu	Glu	Ala 235	His	Arg	Ala	Glu	Gln 240
20	Leu	Gln	Asp	Ala	Glu 245	Glu	Glu	Lys	Asp	<b>Asp</b> 250	Ser	Asn	Glu	Glu	Glu 255	Asn
25	Lys	Asp	Ser	Leu 260	Val	Asp	Asp	Glu	Glu 265	Glu	Lys	Glu	Asp	<b>Leu</b> 270	Gly	Asp
23	Glu	Asp	Glu 275	Ala	Glu	Glu	Glu	Glu 280	Glu	Glu	Asp	Asn	Leu 285	Ala	Ala	Gly
30	Val	Asp 290	Glu	Glu	Arg	Ser	Glu 295	Ala	Asn	Asp	Gln	Gly 300	Pro	Pro	Gly	Glu
	Asp 305	Gly	Val	Thr	Arg	Glu 310	Xaa	Ser	Arg	Ala	Xaa 315					
35																
	(2)	INF	ORMA	TION	FOR	SEQ	ID :	NO:	255:							
40				(	ENCE (A) I (B) I (D) I	ENGI YPE : OPOL	H: 5 ami OGY:	3 an no a lir	nino ncid near	acid						
0_					UENC											
45	Met 1		Lys	Ala	Leu 5	Phe	Arg	Thr	Leu	Gln 10		Met	Leu	Leu	Gly 15	Val
50	Trp	Ile	Leu	Leu 20		Leu	Ala	Ser	Leu 25		Pro	Leu	Trp	Leu 30	Tyr	Cys
50	Trp	Arg	Met 35		Pro	Thr	Lys	Gly 40		Arg	Asp	Gln	Lys 45	Glu	Met	Leu
55	Glu	Val		Gly	lle											
60	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	256:							

			85		90		95	
5	Lys Glu	Leu Gly	Gly Arg	-	Lys Trp Glo 105	ı Pro Ser		
10	. ,	i) SEQUE (A	3) TYPE:	ACTERIST I: 45 ami amino ac	ICS: .no acids :id			
15		(xi) SEQU		CRIPTION	ear : SEQ ID N Phe Pro Al		Pro Trp .	Ala
20	Phe Arg	Leu Ser 20	Thr Leu	Phe Thr	Ile Ile Se 25	r Trp Ser	Glu Asp 30	Sex
25	Asn Asn	Ser Gln	Val Tyr	Met Asn 40	Cys Val Cy	s Ser Phe 45		
			FOR SEQ					
30		() I) I)	B) TYPE:	H: 315 am amino ac XGY: line	mino acids	O: <b>254</b> :		
35	Met Ala 1	Gly Gly	Arg Cys 5	Gly Pro	Xaa Leu Th 10	r Ala Leu	Leu Ala	Alá
40	_	20			Ala Gly Pr 25 Pro Met Th		30	
45	Leu Val 50	35 Met Glu	Gly Glu	40 Trp Met 55	Leu Lys Ph	45 e Tyr Ala 60	Pro Trp	Cys
	Pro Ser 65	Cys Gln	Gln Thr 70	Asp Ser	Glu Trp Gl 7	u Ala Phe 5	Ala Lys	Ası 80
50	Gly Glu	Ile Leu	Gln Ile 85	Ser Val	Gly Lys Va 90	l Asp Val	Ile Gln 95	Glu
55	Pro Gly	Leu Ser 100	Gly Arg	Phe Phe	Val Thr Th 105	r Leu Pro	Ala Phe 110	Phe
22	His Ala	Lys Asp 115	Gly Ile	Phe Arg 120	Arg Tyr Ar	g Gly Pro 125	Gly Ile	Phe
60	Glu Asp			Ile Leu	Glu Lys Ly	s Trp Gln	Ser Val	Gl

	Met	Ala	Ala 195	Arg	Lys	Ala	Ser	Arg 200	Val	Arg	Val	Pro	Phe 205	Pro	Trp	Val
5	Gly	Thr 210	Gly	Gln	Leu	Val	Tyr 215	Gly	Gly	Phe	Leu	туr 220	Phe	Ala	Arg	Arg
10	Pro 225	Pro	Gly	Arg	Pro	Gly 230	G1y	Gly	Gly	Glu	Met 235	Glu	Asn	Thr	Leu	Gln 240
10	Leu	Ile	Lys	Phe	His 245	Leu	Ala	Asn	Arg	Thr 250	Val	Val	Asp	Ser	Ser 255	Val
15	Phe	Pro	Ala	Glu 260	Gly	Leu	Ile	Pro	Pro 265	Tyr	Gly	Leu	Thr	Ala 270	Asp	Thr
	Tyr	Ile	Asp 275	Leu	Ala	Ala	Asp	Glu 280	Glu	Gly	Leu	Trp	Ala 285	Val	Tyr	Ala
20	Thr	Arg 290	Glu	Asp	Asp	Arg	His 295	Leu	Cys	Leu	Ala	Lys 300	Leu	Asp	Pro	Gln
25	Thr 305		Asp	Thr	Glu	Gln 310	Gln	Trp	Asp	Thr	Pro 315	Суѕ	Pro	Arg	Glu	Asn 320
	Ala	Glu	Ala	Ala	Phe 325	Xaa	Ile	Cys	Gly	Thr 330	Leu	Tyr	Val	Val	Тут 335	Asn
30	Thr	Arg	Pro	Ala 340	Ser	Arg	Ala	Arg	Ile 345	Gln	Cys	Ser	Phe	Asp 350	Ala	Ser
	Gly	Pro														
35									252							
	(2)	INF		SEQU	ENCE	СНА	RACI	NO: ERIS	TICS							
40				1	(B) 7 (D) 7	YPE :	.OGY	l09 a ino a : lin	cid ear							
			(xi)	SEÇ	UENC	E DE	SCRI	PTIC	N: S	EQ 1	D NC	): 25	2:			
45	Met 1		Cys	Ile	Asn 5		Thr	Thr	Pro	Arg 10		Leu	Pro	Val	Pro 15	Ser
50	Pro	Phe	e Gly	Cys 20		Ile	Phe	Phe	Phe 25		. Lys	Asn	Pro	Trp 30		Gln
50	Arg	, Lev	Leu 35		Gly	Trp	Leu	Gly 40		Arg	Pro	Ile	His 45		Leu	Gly
55	Туз	: Lev 50		Leu	ser	Leu	Lev 55		Cys	Pro	Phe	Pro 60		Pro	Cys	Ala
	Arg		s Ser	· Val	. Val	. Tyr 70		e Ser	Ser	Pro	Arg 75		Gly	Ala	His	Ala 80
60	Pro	Arç	j Asr	Met	: Ile	. Lev	ı Sei	Lev	. Val	. Leı	ı Ala	His	Gly	Ala	Leu	Tyr

	Met 1	Ala	Leu	Thr	Phe 5	Leu	Leu	Val	Leu	Leu 10	Thr	Leu	Ala	Thr	Leu 15	Cys
5	Thr	Arg	Leu	His 20	Arg	Asn	Phe	Arg	Arg 25	Gly	Glu	Ser	Ile	Туг 30	Trp	Gly
	Pro	Thr	Ala 35	Asp	Ser	Gln	Asp	Thr 40	Val	Ala	Ala	Val	Leu 45	Lys	Arg	Arg
10	Leu	Leu 50	Gln	Pro	Ser	Arg	Arg 55	Val	Lys	Arg	Ser	Arg 60	Arg	Arg	Pro	Xaa
15	<b>Xa</b> a 65	Pro	Pro	Thr	Pro	Asp 70	Ser	Gly	Pro	Glu	Gly 75	Glu	Ser	Ser	Glu	
20	(2)		ORMAT	SEQUI ) ) )	ENCE A) L B) T D) T	CHAI ENGT YPE: OPOL	RACT H: 3 ami OGY:	ERIS 54 a no a lin	FICS mino cid ear	aci		. 25	1.			
25	Met 1	Gly	(xi) Pro	_			,			EQ I Leu 10				Ser	Trp 15	Ser
30	Gly	Pro	Leu	Gln 20	Gly	Gln	Gln	His	His 25	Leu	Val	Glu	Tyr	Met 30	Glu	Arg
	_		Ala 35					40					45			
35		50	His				55					60				
40	65		Glu			70					75					80
			Ile		85					90					95	
45			Thr	100					105					110		
			Gly 115					120					125			
50		130					135					140				
55	145		Ile			150					155					160
			Leu		165					170					175	
60	Asn	Asp	Thr	Ala		Val	Phe		Arg		Arg	Asp	Phe	Thr		Ala

	Asn	Gly	Asp	Gln 260	Ser	His	Lys	Met	Thr 265	Thr	Ser	Arg	Cys	Val 270	Arg	Leu
5	Met	Leu			Met	Ala	Asn			Lys	Glu	Val	_	Ile	Ser	Glu
	-1		275	•	<b>7</b>	**- 3	mb	280	T	<b></b>	<b>71</b> -	m	285	Due	mb se	<b></b>
10	Gin	290	Pne	rea	Leu	vaı	295	ıyr	Den	TTP	GIN	300	mec	Pro	THE	тр
	Ala 305	_	Trp	Ile	Thr	Asn 310	Lys	Met	Gly	Lys	Lys 315	Arg	Ile	Glu	Asn	Phe 320
15	Lys	Ser	Gly	Val	Asp 325	Ala	Asp	Ser	Ser	Tyr 330	Phe	Lys	Ile	Phe	Lys 335	Thr
	Lys	His	Asp		•											
20																
	(2)	INF	ORMA'	TION	FOR	SEQ	ID 1	NO: 3	249:							
25				(	ENCE (A) I (B) I (D) I (UENC	ENGT YPE : OPOL	H: 9 ami OGY:	6 am no a lin	ino cid ear	acid		: 24	9:			
30	Met	_	Ala	Arg	Pro 5	Gly	Gly	His	Pro	Gln 10	Lys	Trp	Ser	Phe	Leu 15	Trp
	Ser	Leu	Ala	Leu 20	_	Leu	Pro	Leu	Ala 25	Leu	Ser	Val	Ser	Leu 30	Phe	Leu
35	Gly	Leu	Ser 35		Ser	Pro	Pro	Gln 40	Pro	Gly	Leu	Ser	Leu 45	Trp	Cys	Thr
40	Leu	Ser 50	_	Cys	Cys	Glu	Gln 55	Trp	Lys	Phe	Lys	Gly 60	Thr	Pro	Ser	Pro
	Ala		Leu	Asn	Leu	Gly 70		Gln	Pro	Lys	Lys 75	Asp	Lys	Lys	Leu	Glu 80
45	Asp	Ser	Ile	Ala	Thr 85	Gln	Leu	Arg	Xaa	Leu 90	Pro	Glu	Lys	Asn	Ser 95	Asn
50																
	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	250:							
55			(i)	_	ENCE (A) I (B) I	ENGT	TH: T	79 an Ino a	nino cid		ls					
60			(xi)		QUENC					EQ I	D NC	): 25	0:			

#### Xaa Val

5	(2)	INFO	ORMAT	rion	FOR	SEQ	ID 1	<b>1</b> 0: 2	248:							
10				- (: (:	A) L B) T D) T	CHAI ENGT YPE: OPOL E DE:	H: 3 ami OGY:	39 a no a lin	mino cid ear	aci		: 24	8:			
15	Met 1	Asn	Trp	Glu	Leu 5	Leu	Leu	Trp	Leu	Leu 10	Val	Leu	Cys	Ala	Leu 15	Leu
	Leu	Leu	Leu	Val 20	Gln	Leu	Leu	Arg	Phe 25	Leu	Arg	Ala	Asp	Gly 30	Asp	Leu
20	Thr	Leu	Leu 35	Trp	Ala	Glu	Trp	Gln 40	Gly	Arg	Arg	Pro	Glu <b>4</b> 5	Trp	Glu	Leu
25	Thr	<b>Asp</b> 50	Met	Val	Val	Trp	Val 55	Thr	Gly	Ala	Ser	Ser 60	Gly	Ile	Gly	Glu
20	Glu 65	Leu	Ala	Tyr	Gln	Leu 70	Ser	Lys	Leu	Gly	Val 75	Ser	Leu	Val	Leu	Ser 80
30	Ala	Arg	Arg	Val	His 85	Glu	Leu	Glu	Arg	Val 90	Lys	Arg	Arg	Cys	Leu 95	Glu
	Asn	Gly	Asn	Leu 100	Lys	Glu	Lys	Asp	Ile 105	Leu	Val	Leu	Pro	Leu 110	Asp	Leu
35	Thr	Asp	Thr 115	Gly	Ser	His	Glu	Ala 120	Ala	Thr	Lys	Ala	Val 125	Leu	Gln	Glu
40	Phe	Gly 130	Arg	Ile	Asp	Ile	Leu 135	Val	Asn	Asn	Gly	Gly 140	Met	Ser	Gln	Arg
70	Ser 145	Leu	Cys	Met	Asp	Thr 150	Ser	Leu	Asp	Val	Tyr 155	Arg	Lys	Leu	Ile	Glu 160
45	Leu	Asn	Tyr	Leu	Gly 165	Thr	Val	Ser	Leu	Thr 170	Lys	Cys	Val	Leu	Pro 175	His
	Met	Ile	Glu	Arg 180	Lys	Gln	Gly	Lys	Ile 185	Val	Thr	Val	Asn	Ser 190	Ile	Leu
50	Gly	Ile	Ile 195	Ser	Val	Pro	Leu	Ser 200	Ile	Gly	Tyr	Cys	Ala 205	Ser	Lys	His
55	Ala	Leu 210	Arg	Gly	Phe	Phe	Asn 215	Gly	Leu	Arg	Thr	Glu 220	Leu	Ala	Thr	туr
55	Pro 225	Gly	Ile	Ile	Val	Ser 230	Asn	Ile	Cys	Pro	Gly 235	Pro	Val	Gln	Ser	Asn 240
60	Ile	Val	Glu	Asn	Ser	Leu	Ala	Gly	Glu	Val 250	Thr	Lys	Thr	Ile	Gly 255	Asn

WO 98/39446 PCT/US98/04482

				100					105					110		
5	Arg	His	Ser 115	Ser	Met	Trp	Ser	Leu 120	Ser	Arg	Gln	Thr	Ser 125	Pro	Ala	Ser
3	Ser	Leu 130	Thr	Gly	Ala	Thr	Phe 135	Arg	Lys	Leu	Asp	Glu 140	Lys	Gly	Ser	Leu
10	Gln 145	Trp	Asp	Arg	Ile	Thr 150	Arg	Leu	Glu	Lys	Gly 155	Lys	Ile	Tyr	Arg	Gln 160
	Gly	Asn	Leu	Phe	Asp 165	Phe	Leu	Arg	Leu	Thr 170	Glu	Trp	Arg	Gly	Pro 175	Arg
15	Val	Leu	Tyr	Phe 180	Gly	Asp	His	Leu	Tyr 185	Ser	Asp	Leu	Ala	Asp 190	Leu	Met
20	Leu	Arg	His 195	Gly	Trp	Arg	Thr	Gly 200	Ala	Ile	Ile	Pro	Glu 205	Leu	Glu	Arg
20	Glu	Ile 210	Arg	Ile	Ile	Asn	Thr 215	Glu	Gln	Tyr	Met	His 220	Ser	Leu	Thr	Trp
25	Gln 225	Gln	Ala	Leu	Thr	Gly 230	Leu	Leu	Glu	Arg	Met 235	Gln	Thr	Tyr	Gln	Asp 240
	Ala	Glu	Ser	Arg	Gln 245	Val	Leu	Ala	Ala	Trp 250	Met	Lys	Glu	Arg	Gln 255	Glu
30	Leu	Arg	Cys	Ile 260	Thr	Lys	Ala	Leu	Phe 265	Asn	Ala	Gln	Phe	Gly 270	Ser	Ile
35	Phe	Arg	Thr 275	Phe	His	Asn	Pro	Thr 280	Tyr	Phe	Ser	Arg	Arg 285	Leu	Val	Arg
33	Phe	Ser 290	Asp	Leu	Tyr	Met	Ala 295	Ser	Leu	Ser	Cys	Leu 300	Leu	Asn	Tyr	Arg
40	Val 305	Asp	Phe	Thr	Phe	Tyr 310	Pro	Arg	Arg	Thr	Pro 315	Leu	Gln	His	Glu	Ala 320
	Pro	Leu	Trp	Met	Asp 325	Gln	Leu	Leu	His	Arg 330	Leu	His	Glu	Asp	Pro 335	Leu
45	Pro	Trp	Хаа													
50																
50	(2)	INF				SEQ				:						
55			(xi)	(	B) T	ENGT YPE: OPOL E DE	ami OGY:	no a lin	cid ear			: 24	7:			
60	Met 1	Ala	Leu	Leu	Ser 5	Cys	Val	Val	Asp	Tyr 10	Phe	Leu	Gly	His	Ser 15	Leu
60																

	Leu	Ser	35	лаа	ıyr	Leu	HIS	40	GIĀ	Pne	Pne	IÀT	45	per	Dea	cys
5	Lys	Cys 50	Cys	Phe	Val	Leu	Val 55	Val	Leu	Ser	Arg	Ile 60	Gly	Ser	Val	Asn
	Glu 65	Thr	Trp	Ser	Cys	Asn 70	Phe	Ser	Ile							
10																
	(2)	INF	ORMAT	MOI	FOR	SEQ	ID i	NO: 2	245 :							
15			(i) :	(:	ENCE A) Li B) T D) T	ENGT YPE :	H: 4 ami	9 am	ino cid	: acid	5					
•				_						EQ II						
20	Thr 1		Ala	Thr	Thr 5	Ser	Ser	Ser	Ser	Ser 10	Pro	Leu	Phe	Leu	Ser 15	Ser
25	Pro	Asp	Trp	Ser 20	Ser	Cys	Pro	Ser	Gly 25	Ser	Cys	Ile	Ala	Pro 30	Trp	Cys
23	Thr	His	Trp 35	Ser	Ser	Ile	Leú	Pro 40	Ser	Leu	Xaa	Ile	Thr 45	Ser	Ser	Ile
30	Pro															
	(2)	INF	'ORMA'	rion	FOR	SEQ	ID	NO: 2	246:							
35			(i)	(		ENGT	н: 3	39 a	mino	: aci	ds					
40			, ,,	(	B) T D) T	OPOL	OGY:	lin	ear	F0 T	<b>D N</b> /O	. 24	<i>c</i> .			
40										EQ I				0		<b></b>
	Met 1		Arg	Val	Pro 5	Pro	reu	ser	ser	10	тър	Thi	Ser	Ser	15	туг
45	Arg	Arg	Trp	Leu 20	Cys	Cys	Pro	Val	Trp 25	Trp	Thr	Thr	Phe	Trp 30	Ala	Thr
50	Ala	Trp	Ser 35		Thr	Lys	His	Leu 40	Tyr	Lys	Asp	Val	Thr 45	Asp	Ala	Il∈
50	Arg	Asp 50	Val	His	Val	Lys	Gly 55		Met	Tyr	Gln	Trp 60		Glu	Gln	Asp
55	Met 65		ı Lys	Tyr	Ile	Leu 70		Gly	Asp	Glu	Thr 75	Phe	Ala	Val	Leu	Ser 80
	Arç	J Lev	ı Val	Ala	His 85	Gly	Lys	Gln	Leu	Phe 90	Leu	Ile	Thr	Asn	Ser 95	Pro
60	Phe	ser	. Phe	Val	Asp	Lys	Gly	Met	Arg	His	Met	Val	Gly	Pro	Asp	Tr

	His	Ile	Leu	Ala 20	Met	Glu	Val	Leu	Ala 25	Trp	Leu	Leu	Ile	Туг 30	Leu	Leu
5	Gly	Pro	Gly 35	Trp	Val	Pro	Ser	Ala 40	Leu	Xaa	Arg	Leu	His 45	Pro	Gly	His
10	Leu	Ser 50	Gly	Ser	Val	Leu	Val 55	Ser	Ala	Ala						
15	(2)		(i) :	(	ENCE A) L B) T D) T	CHAI ENGT YPE: OPOL	RACT H: 1 ami: OGY:	ERIS 23 a no a lin	rics mino cid ear	aci		: 24	3:			
20	Met 1	Ile	Leu	Gly	Gly 5	Ile	Val	Val	Val	Leu 10	Val	Phe	Thr	Gly	Phe 15	Val
25	Trp	Ala	Ala	His 20	Asn	Lys	Asp	Val	Leu 25	Arg	Arg	Met	Lys	Lys 30	Arg	Tyr
	Pro	Thr	Thr 35	Phe	Val	Met	Val	Val 40	Met	Leu	Ala	Ser	Tyr 45	Phe	Leu	Ile
30	Ser	Met 50	Phe	Gly	G1y	Val	Met 55	Val	Phe	Val	Phe	Gly 60	Ile	Thr	Phe	Pro
35	65			Met		70					75					80
				Glu	85					90					95	
40				Val 100					105			Glu	Glu	110	lle	Asn
45	Arg	Leu	Thr 115	Asp	Туr	Ile	Ser	Lys 120	Val	Lys	GIu					
	(2)	INF		TION												
50				(	A) L B) T D) T	ENGT YPE: OPOL	H: 7 ami OGY:	3 am no a lin	ino cid ear	acid		: 24	<b>4</b> :			
55	Ala 1		Val	Ser	Gly 5	Gln	Leu	Cys	Met	Glu 10	Ile	Ala	Arg	Gly	Asn 15	Ile
60	Phe	Phe	Leu	Asn 20		Leu	Val	Thr	Thr 25		Cys	Cys	Ser	Cys 30	Leu	Leu

	Pro	Pro 50	Leu	Pro	Pro	His	Pro 55	Val	Val	Ala	Pro	Pro 60	Thr	Pro	Ser	Pro
5	Ser 65	Arg	Gly	Cys	Val	Leu 70	Leu									
10	(2)	INF	ORMA!	rion	FOR	SEQ	ID I	NO: 2	240:							
15				( (	A) L B) T D) T	ENGT YPE: OPOL	H: 7 ami OGY:	ERIS 1 am no a lin PTIO	ino cid ear	acid		: 24	0:			
20	Met 1	Pro	Gly	Thr	Phe 5	Leu	Arg	Pro	Phe	Val 10	Phe	Leu	Phe	Leu	Phe 15	Ile
20	Cys	Cys	Cys	Leu 20	His	Ser	Gly	Gly	Leu 25	Gly	Gly	Val	Pro	Leu 30	Pro	Pro
25	Phe	Pro	Pro 35	Gln	Ala	Gln	Arg	Gly 40	Glu	Gly	Pro	Gly	Lys 45	Trp	Met	Ser
	Pro	Pro 50		Pro	Pro	His	Pro 55	Val	Val	Ala	Pro	Pro 60	Thr	Pro	Ser	Pro
30	Ser 65	_	Gly	Cys	Val	Leu 70	Leu									
35	(2)	INF	ORMA	TION	FOR	SEQ	ID:	NO:	241:							
40				- (	A) I B) T D) T	ENGT YPE: OPOL	H: 2 ami OGY:	ERIS 28 am ino a 1in PTIO	nino ncid near	acid		: 24	1:			
45	Met		Tyr	Val	Leu 5	Ser	Val	Ser	Xaa	Leu 10	Xaa	Leu	Phe	Leu	Ala 15	Cys
45	Gly	Leu	Cys	Leu 20	Хаа	Leu	Leu	Thr	Gly 25		Leu	Leu				
50	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	242:							
55				(	(A) I (B) T (D) T	ENGT TYPE :	H: 5 ami OGY:	TERIS 58 an ino a : lir	mino acid near	ació		: 24	2:			
60	Met		: Leu	Phe	Asp 5			Pro				Ala	Phe	Leu	Leu 15	Gly

PCT/US98/04482

	225					230					235					240
		Ser	Leu	Gln	Cys		Cvs	Glu	Glu	Met		Asp	Tle	Asn	Ala	
5					245		-2-			250		·~F			255	
	Tyr	Leu	Val	Met 260	Gly	Gln	Lys	Gln	Gly 265	Gly	Glu	Leu	Val	Ile 270	Thr	Ser
10	Val	Lys	Arg 275	Trp	Gln	Lys	Gly	Gln 280	Arg	Glu	Phe	Lys	Arg 285	Ile	Ser	Arg
	Ser	Ile 290	Arg	Lys	Leu	Gln	Суз 295	Xaa								
15															•	
	(2)	INF	ORMA!	rion	FOR	SEQ	ID 1	NO: 2	238:							
20	<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 92 amino acids</li> <li>(B) TYPE: amino acid</li> <li>(D) TOPOLOGY: linear</li> <li>(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 238:</li> </ul>															
25	Met 1	Ala	Ser	Leu	Gly 5	His	Ile	Leu	Val	Phe 10	Суз	Val	Gly	Leu	Leu 15	Thr
30	Met	Ala	Lys	Ala 20	Glu	Ser	Pro	Lys	Glu 25	His	Asp	Pro	Phe	Thr 30	Tyr	Asp
50	Tyr	Gln	Ser 35	Leu	Gln	Ile	Gly	Gly 40	Leu	Val	Ile	Ala	Gly 45	Ile	Leu	Phe
35	Ile	Leu 50	Gly	Ile	Leu	Ile	Val 55	Leu	Ser	Arg	Arg	Cys 60	Arg	Cys	Lys	Phe
	Asn 65	Gln	Gln	Gln	Arg	Thr 70	Gly	Glu	Pro	Asp	Glu 75	Glu	Glu	Gly	Thr	Phe 80
40	Arg	Ser	Ser	Ile	Arg 85	Arg	Leu	Ser	Xaa	Arg 90	Xaa	Arg				
45	(2)	INF	ORMA?	rion	FOR	SEQ	ID I	NO: 2	239:							
			(i) :	(	ENCE A) L	ENGT	н: 7	1 am	ino .		s					
50			(xi)	Ċ	B) T D) T UENCI	OPOL	OGY:	lin	ear	EQ II	o no	: 239	9:			
55	Met 1	Pro	Gly	Thr	Phe 5	Leu	Arg	Pro	Phe	Val 10	Phe	Leu	Phe	Leu	Phe 15	Ile
JJ	Cys	Cys	Cys	Leu 20	His	Ser	Gly	Gly	Leu 25	Gly	Gly	Val	Pro	Leu 30	Pro	Pro
60	Phe	Pro	Pro 35	Gln	Ala	Gln	Arg	Gly 40	Glu	Gly	Pro	Gly	Lys 45	Trp	Met	Ser

	Phe	Tyr 290	Ile	Leu	Ser	Ser	Gly 295	Leu	Ile	Leu	Leu	Gln 300	Thr	Thr	Asn	Ser
5	Val 305	Phe	Asn	Lys	Thr	Leu 310	Leu	Lys	Gln							
10	(2)	INFO	ORMAT	MOI	FOR	SEQ	ID 1	NO: 2	237:							
15				(	A) L B) T D) T	ENGT YPE: OPOL	H: 2 ami OGY:	96 a no a lin	mino cid ear	: aci EQ I		: 23	7:			
20	Met 1	Leu	Gln	Gly	Pro 5	Gly	Ser	Leu	Leu	Leu 10	Leu	Phe	Leu	Ala	Ser 15	His
-	Cys	Cys	Leu	Gly 20	Ser	Ala	Arg	Gly	Leu 25	Phe	Leu	Phe	Gly	Gln 30	Pro	Asp
25	Phe	Ser	Туг 35	Lys	Arg	Xaa	Asn	Cys 40	Lys	Pro	Ile	Pro	Val 45	Asn	Leu	Gln
	Leu	Cys 50	His	Gly	Ile	Glu	Туг 55	Gln	Asn	Met	Arg	Leu 60	Pro	Asn	Leu	Leu
30	Gly 65	His	Glu	Thr	Met	Lys 70	Glu	Val	Leu	Glu	Gln 75	Ala	Gly	Ala	Trp	Ile 80
35	Pro	Leu	Val	Met	Lys 85	Gln	Суз	His	Pro	Asp 90	Thr	Lys	Lys	Phe	Leu 95	Cys
33	Ser	Leu	Phe	Ala 100	Pro	Val	Cys	Leu	Asp 105	Asp	Leu	Asp	Glu	Thr 110	Ile	Gln
40	Pro	Cys	His 115	Ser	Leu	Суѕ	Val	Gln 120	Val	Lys	Asp	Arg	Cys 125	Ala	Pro	Val
	Met	Ser 130	Ala	Phe	Gly	Phe	Pro 135	Trp	Pro	Asp	Met	Leu 140	Glu	Суѕ	Asp	Arg
45	Phe 145	Pro	Gln	Asp	Asn	Asp 150	Leu	Cys	Ile	Pro	Leu 155	Ala	Ser	Ser	Asp	His 160
50	Leu	Leu	Pro	Ala	Thr 165	Glu	Glu	Ala	Pro	Lys 170	Val	Cys	Glu	Ala	Cys 175	Lys
50	Asn	Lys	Asn	Asp 180	Asp	Asp	Asn	Asp	Ile 185	Met	Glu	Thr	Leu	Cys 190	Lys	Asn
55	Asp	Phe	Ala 195	Leu	Lys	Ile	Lys	Val 200	Lys	Glu	Ile	Thr	Тут 205	Ile	Asn	Arg
	Asp	Thr 210	_	Ile	Ile	Leu	Glu 215	Thr	Lys	Ser	Lys	Thr 220	Ile	Tyr	Lys	Leu
60	Asn	Gly	Val	Ser	Glu	Arg	Asp	Leu	Lys	Lys	Ser	Val	Leu	Trp	Leu	Lys

5			(i) s	() ()	A) L B) T D) T	ENGT YPE : OPOL	H; 3 ami: OGY:	13 an no a lin	mino cid ear	aci		: 23	6:			
10	Met 1	Thr	Arg	Gly	Gly 5	Pro	Gly	Gly	Arg	Pro 10	Gly	Leu	Pro	Gln	Pro 15	Pro
10	Pro	Leu	Leu	Leu 20	Leu	Leu	Leu	Leu	<b>Xaa</b> 25	Leu	Leu	Leu	Val	Thr 30	Ala	Glu
15	Pro	Pro	Lys 35	Pro	Ala	Gly	Val	Tyr 40	Tyr	Ala	Thr	Ala	Tyr 45	Trp	Met	Pro
	Ala	Glu 50	Lys	Thr	Val	Gln	Val 55	Lys	Asn	Val	Met	Asp 60	Lys	Asn	Gly	Asp
20	Ala 65	Tyr	Gly	Phe	Tyr	Asn 70	Asn	Ser	Val	Lys	Thr 75	Thr	Gly	Trp	Gly	Ile 80
25	Leu	Glu	Ile	Arg	Ala 85	Gly	Tyr	Gly	Ser	Gln 90	Thr	Leu	Ser	Asn	Glu 95	Ile
	Ile	Met	Phe	Val 100	Ala	Gly	Phe	Leu	Glu 105	Gly	Tyr	Leu	Thr	Ala 110	Pro	His
30	Met	Asn	Asp 115	His	Tyr	Thr	Asn	Leu 120	Tyr	Pro	Gln	Leu	Ile 125	Thr	Lys	Pro
	Ser	Ile 130	Met	Asp	Lys	Val	Gln 135	Asp	Phe	Met	Glu	Lys 140	Gln	Asp	Lys	Trp
35	Thr 145		Lys	Asn	Ile	Lys 150	Glu	Tyr	Lys	Thr	<b>Asp</b> 155	Ser	Phe	Trp	Arg	His 160
40	Thr	Gly	Tyr	Val	Met 165	Ala	Gln	Ile	Asp	Gly 170	Leu	Tyr	Val	Gly	Ala 175	Lys
	Lys	Arg	Ala	Ile 180		Glu	Gly	Thr	Lys 185		Met	Thr	Leu	Phe 190	Gln	Ile
45	Gln	Phe	Leu 195	Asn	Ser	Val	Gly	Asp 200	Leu	Leu	Asp	Leu	Ile 205	Pro	Ser	Leu
	Ser	Pro 210	Thr	Lys	Asn	Gly	Ser 215	Leu	Lys	Val	Phe	Lys 220	Arg	Trp	Asp	Met
50	Gly 225		Cys	Ser	Ala	Leu 230		Lys	Val	Leu	Pro 235	Gly	Phe	Glu	Asn	11e 240
55	Leu	Phe	Ala	His	Ser 245		Trp	Tyr	Thr	Tyr 250	Ala	Ala	Met	Leu	Arg 255	Il€
55	Tyr	Lys	His	Trp 260		Phe	Asn	Xaa	Ile 265		Lys	Asp	Thr	Ser 270	Ser	Ser
60	Arg	Leu	Ser 275		Ser	Ser	Tyr	Pro 280		Phe	Leu	Glu	Ser 285		Asp	Asp

(2) INFORMATION FOR SEQ ID NO: 236:

	Ala	Thr	Leu	Ser	Pro 245	Gly	Ala	Ser	Ser	Arg 250	Gly	Trp	Asp	Asp	Gly 255	Asp
5	Thr	Arg	Ser	Glu 260	His	Ser	Tyr	Ser	Glu 265	Ser	Gly	Ala	Ser	Gly 270	Ser	Ser
10	Phe	Glu	Glu 275	Leu	Ąsp	Leu	Glu	Gly 280	Glu	Gly	Pro	Leu	Gly 285	Glu	Ser	Arg
	Leu	Asp 290	Pro	Gly	Thr	Xaa	Pro 295	Leu	Gly	Thr	Thr	Lys 300	Trp	Leu	Trp	Glu
15	Pro 305		Ala	Pro	Glu	Lys 310	Gly	Lys	Glu							
20	(2)	INF	ORMA!	TION SEQU						:						
25				(	A) L B) T D) T	ENGT YPE: OPOL	H: 4 ami OGY:	8 am no a lin	ino cid ear	acid		. 22	4.			
23			(X1)	SEQ	UENC	e de	SCRI	PITO	N: 5	EÕ T	D NO	: 23	4:			
	Pro 1		Ser	Leu	Ile 5	Leu	His	Leu	Leu	Leu 10	Phe	Phe	Phe	Leu	Leu 15	Phe
30	Leu	Phe	Phe	Ile 20	Phe	Ile	Phe	Leu	Phe 25	Phe	Leu	Gln	Cys	Leu 30	Thr	Phe
35	Leu	Phe	<b>Xaa</b> 35		Pro	Arg	Gly	Arg 40	Tyr	His	Gly	Leu	Cys <b>4</b> 5	Phe	Lys	Phe
40	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	235:							
45			(i)			ENG1	M: 3	4 an	nino		ls					
			(xi)	SEC	(D) I					EQ I	D NC	): 23	5:			
50	Pro		Leu	Arg	Pro 5		. Leu	Leu	Trp	Ala 10		Leu	Ala	Leu	Trp 15	Leu
	Cys	cys	: Ala	Thr 20		Arg	Met	His	Cys 25		Val	Glu	Met	Ala 30		Asn
55	Pro	Val	-													

	TTG	Бец	275	NIG	GIŞ	TÀT	116	280	rue	wan	ser	FILE	285	ser	ASN	TIP
5	Gln	Asp 290	Ala	Cys	Leu	Pro	Ile 295	Arg	Cys	His	Arg	Cys 300	Arg			
10	(2)	INF	ORMA'	SEQU.	ENCE	SEQ CHAI	RACT	ERIS	rics		ds					
15			(xi)	(	D) T	YPE: OPOL E DE	OGY:	lin	ear	EQ I	D NO	: 23	3:			
	Met 1	Ser	Asp	Leu	Leu 5	Leu	Leu	Gly	Leu	Ile 10	Gly	Gly	Leu	Thr	Leu 15	Leu
20	Leu	Leu	Leu	Thr 20	Leu	Leu	Ala	Phe	Ala 25	Gly	Тут	Ser	Gly	Leu 30	Leu	Ala
25	Gly	Val	Glu 35	Val	Ser	Ala	Gly	Ser 40	Pro	Pro	Ile	Arg	Asn 45	Val	Thr	Val
	Ala	Тут 50	Lys	Phe	His	Met	Gly 55	Leu	Tyr	Gly	Glu	Thr 60	Gly	Arg	Leu	Phe
30	Thr 65	Glu	Ser	Cys	Ser	Ile 70	Ser	Pro	Lys	Leu	Arg 75	Ser	Ile	Ala	Val	Tyr 80
	Tyr	Asp	Asn	Pro	His 85	Met	Val	Pro	Pro	Asp 90	Lys	Cys	Arg	Cys	Ala 95	Val
35	Gly	Ser	Ile	Leu 100	Ser	Glu	Gly	Glu	Glu 105	Ser	Pro	Ser	Pro	Glu 110	Leu	Ile
40	Asp	Leu	Tyr 115	Gln	Lys	Phe	Gly	Phe 120	Lys	Val	Phe	Ser	Phe 125	Pro	Ala	Pro
	Ser	His 130	Val	Val	Thr	Ala	Thr 135	Phe	Pro	Tyr	Thr	Thr 140	Ile	Leu	Ser	Ile
<b>4</b> 5	Trp 145	Leu	Ala	Thr	Arg	Arg 150	Val	His	Pro	Ala	Leu 155	Asp	Thr	Tyr	Ile	Lys 160
	Glu	Arg	Lys	Leu	Суs 165	Ala	Tyr	Pro	Arg	Leu 170	Glu	Ile	Tyr	Gln	Glu <b>17</b> 5	Asp
50	Gln	Ile	His	Phe 180	Met	Cys	Pro	Leu	Ala 185	Xaa	Gln	Gly	Asp	Phe 190	Tyr	Val
55	Pro	Glu	Met 195	Lys	Glu	Thr	Glu	Trp 200	Lys	Trp	Arg	Gly	Leu 205	Val	Glu	Ala
	Ile	Asp 210	Thr	Gln	Val	Asp	Gly 215	Thr	Gly	Ala	Asp	Thr 220	Met	Ser	Asp	Thr
50	Ser	Ser	Val	Ser	Leu	Glu 230	Val	Ser	Pro	Gly	Ser	Arg	Glu	Thr	Ser	Ala

(2)	INFORMATION	FOR	SEO	ID	NO:	232:
121	TIME OUTST TOTA	1 OIL	252		IVO.	~ ~ ~

5			(i) :	(	A) L B) T	CHAI ENGT YPE: OPOL	H: 3 ami	01 a	mino cid		ds					
			(xi)			E DE				EQ I	D NO	: 23	2:			
10	Met 1	Asp	Ala	Arg	Trp 5	Trp	Ala	Val	Val	Val 10	Leu	Ala	Ala	Phe	Pro 15	Ser
15	Leu	Gly	Ala	Gly 20	Gly	Glu	Thr	Pro	Glu 25	Ala	Pro	Pro	Glu	Ser 30	Trp	Thr
15	Gln	Leu	Trp 35	Phe	Phe	Arg	Phe	Val 40	Val	Asn	Ala	Ala	Gly 45	Tyr	Ala	Xaa
20	Phe	<b>Met</b> 50	Val	Pro	Gly	Туг	Leu 55	Leu	Val	Gln	Tyr	Phe 60	Arg	Arg	Lys	Asn
	Тут 65	Leu	Glu	Thr	Gly	Arg 70	Gly	Leu	Cys	Phe	Pro 75	Leu	Val	Lys	Ala	Cys 80
25	Val	Phe	Gly	Asn	Glu 85	Pro	Lys	Ala	Ser	<b>As</b> p 90	Glu	Val	Pro	Leu	Ala 95	Pro
30	Arg	Thr	Glu	Ala 100	Ala	Glu	Thr	Thr	Pro 105	Met	Trp	Gln	Ala	Leu 110	Lys	Leu
50	Leu	Phe	Cys 115	Ala	Thr	Gly	Leu	Gln 120	Val	Ser	Tyr	Leu	Thr 125	Trp	Gly	Val
35	Leu	Gln 130		Arg	Val	Met	Thr 135	Arg	Ser	Tyr	Gly	Ala 140	Thr	Ala	Thr	Ser
	Pro 145	Gly	Glu	Arg	Phe	Thr 150	Asp	Ser	Gln	Phe	Leu 155	Val	Leu	Met	Asn	<b>Ar</b> g
40	Val	Leu	Ala	Leu	Ile 165	Val	Ala	Gly	Leu	Ser 170	Cys	Val	Leu	Cys	<b>Lys</b> 175	Gln
45	Pro	Arg	His	Gly 180	Ala	Pro	Met	Tyr	<b>Arg</b> 185	Tyr	Ser	Phe	Ala	Ser 190	Leu	Ser
<b>4</b> 3	Asn	Val	Leu 195	Ser	Ser	Trp	Cys	Gln 200	Tyr	Glu	Ala	Leu	Lys 205	Phe	Val	Ser
50	Phe	Pro 210		Gln	Val	Leu	Ala 215	Lys	Ala	Ser	Lys	Val 220	Ile	Pro	Val	Met
	Leu 225	Met	Gly	Lys	Leu	Val 230	Ser	Arg	Arg	Xaa	Asn 235	Glu	His	Trp	Glu	Тут 240
55	Leu	Thr	Ala	Thr	Leu 245	Ile	Ser	Ile	Gly	Val 250	Ser	Met	Phe	Leu	Leu 255	Ser
60	Ser	Gly	Pro	Glu 260	Pro	Arg	Ser	Ser	Pro 265	Ala	Thr	Thr	Leu	Ser 270	Gly	Leu
_																

	Phe	Ser	Asn 35	Leu	Gln	Thr	Ile	Туг <b>4</b> 0	Ile	Ser	Cys	Leu	Gln 45	His	Ala	Val
5	Суѕ	Lys 50	His	Ser	Val	Ile	Trp 55	Ser	Ile	Gln	Leu	Phe 60	Val	Arg	Ala	Leu
	Pro 65	Ile	Ser	Lys	Cys	Ala 70	Glu	Leu	Ser	Ile	<b>Asp</b> 75	Gly	Ile	Phe	Arg	Ser 80
10	Phe	His	Glu	Asn	Trp 85	Lys	Cys	Ser	Trp	Val 90	Ala	Pro	Thr	Xaa		
15	(2)	INF	ORMA!	NOIT	FOR	SEQ	ID I	NO: 2	230:							
20			(i)	(	ENCE A) L B) T D) T	ENGT YPE:	H: 3 ami	7 am no a	ino cid		s					
-			(xi)	SEQ	UENC:	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 23	0:			
25	Met 1	Gly	Trp	Ser	Ala 5	Gly	Leu	Leu	Phe	Leu 10	Leu	Ile	Leu	Tyr	Leu 15	Pro
	Val	Pro	Gly	Trp 20	Met	Glu	Arg	Glu	Asp 25	Gly	Gly	Asp	Gly	Thr 30	Ser	Phe
30	Thr	Ser	Gly 35	Ser	Trp											
35	(2)	INF		(	ENCE A) L B) T	CHA ENGT YPE:	RACT H: 8	ERIS 1 am no a	TICS ino cid		s					
40			(xi)	SEQ	D) T UENC					EQ I	D NO	: 23	1:			
	Met 1	Ala	Thr	Leu	Trp 5	Gly	Gly	Leu	Leu	Arg 10	Leu	Gly	Ser	Leu	Leu 15	Ser
45	Leu	Ser	Cys	Leu 20	Ala	Leu	Ser	Val	Leu 25	Leu	Leu	Ala	His	Val 30	Gln	Thr
50	Pro	Pro	Arg 35	Ile	Ser	Arg	Met	Ser 40	Asp	Val	Asn	Val	Ser 45	Ala	Leu	Pro
50	Ile	Lys 50	_	Ile	Leu	Gly	Ile 55	Phe	Ile	Ile	Arg	Thr 60	Tyr	Leu	Arg	Lys
55	Ile 65		Ile	Ala	Phe	Met 70		Trp	Ser	Pro	Cys 75	Leu	Cys	Gly	Gly	Leu 80
	Met															

	(2)	INFO	ORMAT	NOI	FOR	SEQ	ID 1	10: 2	227:							
5			(i) :	C	A) L B) T		H: 2 ami	0 am no a	ino cid	: acid	s					
10			(xi)	SEQ	JENC	E DE	SCRI	PTIO	N: 51	EQ I	D <b>N</b> O	: 22	7 :			
	Met 1	Ser	Ile	Phe	Leu 5	Val	Met	Ser	Ile	Ser 10	Cys	Ser	Ser	Thr	Ser 15	His
15	Cys	Tyr	Ser	Phe 20												
20	(2)	INF	ORMA'	rion	FOR	SEQ	ID 1	VO: 2	228:							
			(i) :	•	A) L		н: 9	4 am	ino	: acid	s					
25			(xi)	SEQ		OPOL E DE:				EQ I	D NO	: 22	8:			
	Met 1	Ser	Phe	Ser	Phe 5	Ile	Ile	Phe	Leu	Leu 10	Leu	Val	Cys	Gln	Glu 15	Ile
30	Thr	Phe	Cys	Met 20	Ser	Tyr	Gly	Asp	Ala 25	Val	Asn	Cys	Phe	Ser 30	Glu	Cys
35	Phe	Ser	Asn 35	Leu	Gln	Thr	Ile	Туг 40	Ile	Ser	Cys	Leu	Gln 45	His	Ala	Val
33	Cys	Lys 50	His	Ser	Val	Ile	Trp 55	Ser	Ile	Gln	Leu	Phe 60	Val	Arg	Ala	Leu
40	Pro 65	Ile	Ser	Lys	Cys	Ala 70	Glu	Leu	Ser	Ile	<b>As</b> p 75	Gly	Ile	Phe	Arg	Ser 80
	Phe	His	Glu	Asn	Trp 85	Lys	Суз	Ser	Trp	Val 90	Ala	Pro	Thr	Xaa		
45																
	(2)	INF	ORMA:	rion	FOR	SEQ	ID 1	NO: 2	229:							
50			(i) :	(	A) L B) T		H: 9 ami	4 am no a	ino cid	: acid	s					
			(xi)	SEQ						EQ I	D NO	: 22	9:			
55	Met 1	Ser	Phe	Ser	Phe 5	Ile	Ile	Phe	Leu	Leu 10	Leu	Val	Cys	Gln	Glu 15	Ile
60	Thr	Phe	Cys	<b>Met</b> 20	Ser	Тух	Gly	Asp	Ala 25	Val	Asn	Cys	Phe	Ser 30	Glu	Суѕ

			(xi)		B) T D) T VENCI	OPOL	OGY:	line	ear	EQ II	OM C	: 22	4:			
5	Met 1	Glu	Ala	Val	Phe 5	Thr	Val	Phe	Phe	Phe 10	Leu	Leu	Phe	Cys	Phe 15	
10	(2)	INFO	ORMA'.	rion	FOR	SEQ	ID I	10: 2	225 :							
15				(	A) L B) T D) T	ENGT YPE : OPOL	H: 1 ami OGY:	55 a no a lin	mino cid ear	aci		: 22	5:			
20	Met 1	Gly	Phe	Gly	Ala 5	Thr	Leu	Ala	Val	Gly 10	Leu	Thr	Ile	Phe	Val 15	Leu
20	Ser	Val	Val	Thr 20	Ile	Ile	Ile	Cys	Phe 25	Thr	Cys	Ser	Cys	Суз 30	Cys	Leu
25	Тут	Lys	Thr 35	Cys	Arg	Arg	Pro	Arg 40	Pro	Val	Val	Thr	Thr 45	Thr	Thr	Sei
	Thr	Thr 50		Val	His	Ala	Pro 55	Tyr	Pro	Gln	Pro	Pro 60	Ser	Val	Pro	Pro
30	Ser 65	-	Pro	Gly	Pro	Ser 70	Tyr	Gln	Gly	Tyr	His 75	Thr	Met	Pro	Pro	Glr 80
35	Pro	Gly	Met	Pro	Ala 85	Ala	Pro	Tyr	Pro	Met 90	Gln	Tyr	Pro	Pro	Pro 95	Туз
	Pro	Ala	Gln	Pro 100	Met	Gly	Pro	Pro	Ala 105	Tyr	His	Glu	Thr	<b>Leu</b> 110	Ala	Gly
40	Gly	Ala	Ala 115	Ala	Pro	Tyr	Pro	Ala 120	Ser	Gln	Pro	Pro	Tyr 125		Pro	Xaa
	Tyr	Met 130		Ala	Pro	Lys	Xaa 135	Xaa	Ser	Glu	His	Ser 140	Leu	Ala	Ser	Le
45	Ala 145		Thr	Trp	Leu	Cys 150		Val	Cys	Ala	<b>Xaa</b> 155					
50	(2)	INF	ORMA	MOIT	FOR	SEQ	ID	NO:	226:							
55				1	(A) I (B) T (D) T	ENGT TYPE :	TH: I ami	lO am ino a : lir	nino ncid near	ació		): 22	6:			
60	Met 1			e Gly		Thr										

				(1	в) Т	YPE:	H: 1: ami: OGY:	no a	cid	aci	ds					
			(xi)							EQ II	ON O	: 22	2:			
5	Met 1	Lys	Phe	Thr	Thr 5	Leu	Leu	Phe	Leu	Ala 10	Ala	Val	Ala	Gly	Ala 15	Leu
10	Val	Tyr	Ala	Glu 20	Asp	Ala	Ser	Ser	Asp 25	Ser	Thr	Gly	Ala	Asp 30	Pro	Ala
	Gln	Glu	Ala 35	Gly	Thr	Ser	Lys	Pro 40	Asn	Glu	Glu	Ile	Ser 45	Gly	Pro	Ala
15	Glu	Pro 50	Ala	Ser	Pro	Pro	Glu 55	Thr	Thr	Thr	Thr	Ala 60	Gln	Glu	Xaa	Ser
20	Ala 65	Ala	Ala	Val	Gln	Gly 70	Thr	Ala	Lys	Val	Thr 75	Ser	Ser	Arg	Gln	Glu 80
20	Leu	Asn	Pro	Leu	Lys 85	Ser	Ile	Val	Glu	Lys 90	Ser	Ile	Leu	Leu	Thr 95	Glu
25	Gln	Ala	Leu	Ala 100	Lys	Ala	Gly	Lys	Gly 105	Met	His	Gly	Gly	Val 110	Pro	Gly
	Gly	Lys	Gln 115	Phe	Ile	Glu	Asn	Gly 120	Ser	Glu	Phe	Ala	Gln 125	Lys	Leu	Leu
30	Lys	Lys 130	Phe	Ser	Leu	Leu	Lys 135	Pro	Trp	Ala						
35	(2)	INF	ORMA'	TION	FOR	SEQ	ID I	NO:	223:							
40				(	I (A) I (B) I (D)	ENGT YPE : YPOL	RACT H: 5 ami OGY: SCRI	0 am no a lin	ino cid ear	acid		: 22	3:			
45	Met		Gly	Cys	Gly 5	Ile	Pro	Ala	Leu	Gly 10		Leu	Leu	Leu	Leu 15	Gln
,,	Хаа	Ser	Ala	Asp 20		Asn	Gly	Ile	Gln 25		Phe	Phe	Tyr	Pro 30	Trp	Ser
50	Cys	Glu	Gly 35		Ile	Trp	Asp	Arg 40		Ser	Cys	Gly	Gly 45		Ala	Ala
	Ile	Arg														
55																
	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	224:							
60			(i)	_			ARACT	_			ds					

	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 219:
5	Met Gln Pro Leu Asn Phe Ser Ser Thr Xaa Cys Ser Ser Phe Ser Pro 1 5 10 15
3	Pro Thr Thr Val Ile Leu Leu Ile Leu Leu Cys Phe Glu Gly Leu Leu 20 25 30
10	Phe Leu Ile Phe Thr Ser Val Met Phe Gly Thr Gln Val His Ser Ile 35 40 45
	Cys Thr Asp Glu Thr Gly Ile Glu Gln Leu Lys Lys Glu Glu Arg Arg 50 55 60
15	Trp Ala Lys Lys Thr Lys Trp Met Asn Met Lys Ala Val Phe Gly His 65 70 75 80
20	Pro Phe Ser Leu Gly Trp Ala Ser Pro Phe Ala Thr Pro Asp Gln Gly 85 90 95
	Lys Ala Asp Pro Tyr Gln Tyr Val Val 100 105
25	(2) INFORMATION FOR SEQ ID NO: 220:
	(i) SEQUENCE CHARACTERISTICS:
30	(A) LENGTH: 29 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 220:
35	Met Tyr Thr Asn His Phe Asn Leu Tyr Leu Lys Tyr Ile Leu Leu Ile 1 5 10 15
	Ile Leu Ile Leu Asn Met Thr Asn Ser Ser Ser Arg Tyr 20 25
40	
	(2) INFORMATION FOR SEQ ID NO: 221:
45	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 17 amino acids  (B) TYPE: amino acid  (D) TOPOLOGY: linear  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 221:
50	Met Asn Glu Leu Leu Phe Phe Phe Phe Phe Phe Phe Leu His Phe 1 5 10 15
	Val
55	
	(2) INFORMATION FOR SEQ ID NO: 222:
60	(i) SEQUENCE CHARACTERISTICS:

		50					55					60				
5	Phe 65	Val	Val	Leu	Ile	Gly 70	Trp	Pro	Leu	Ile	Gly 75	Met	Ile	Phe	Glu	Ile 80
3	Tyr	Gly	Phe	Phe	Leu 85	Leu	Phe	Arg	Gly	Phe 90	Phe	Pro	Val	Val	Val 95	Gly
10	Phe	Ile	Arg	Arg 100	Val	Pro	Val	Leu	Gly 105	Ser	Leu	Leu	Asn	Leu 110	Pro	Gly
	Ile	Arg	Ser 115	Phe	Val	Asp	Lys	Val 120	Gly	Glu	Ser	Asn	Asn 125	Met	Val	
15																
	(2)	INF	ORMA!	rion	FOR	SEQ	ID I	<b>WO</b> : 2	217:							
20				(	A) I B) T D) T	ENGT YPE: OPOL	H: 4 ami OGY:	7 am no a lin		acid		: 21	7:			
25	Mot	Tlo	Ara.	Lve	I.au	Hic	LVS	Tle	Tle	Val	Phe	Ser	Pro	Ara	Val	Ile
23	met 1	TIE	ALG	пуs	5	1113	Dy S			10			•••	9	15	
20	Val	Leu	Leu	Asn 20		Phe	Phe	Phe	Ile 25	Lys	Ala	Lys	Phe	<b>Val</b> 30	Leu	Tyr
30	Ile	Phe	Val 35		His	Val	Leu	Asp 40		Ser	Ile	Ser	Tyr 45	Pro	Val	
35	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	218:							
			(i)						TICS		_					
40			(xi)		(B) 1 (D) 1	TYPE:	.OGY	ino a : lir				o: 21	.8:			
														110	Hic	Met
45	Met 1		Leu	AST	5		Pne	: гуз	116	10		Ser	Her		15	Met
	Asn	Leu	Leu	Phe 20		Leu	Ile	e Ser	: Leu 25		Ser	Ser	Asr	Leu 30		Gly
50	Val	Glr	Phe 35		: Cys	: Glu	Thr	Val	Gln	1						
55	(2)	INE	FORMA	MOIT!	1 FOF	R SE(	) ID	NO:	219:							
			(i)		(A)	LENG	TH:	105	STICS amin		ids					
60								ino : : li:								

	GIII	vai	35	cys	PIO	TYL	ASP	40	Met	гуу	HIS	пр	45	Arg	Arg	ьys
5	Ala	Trp 50	Cys	Arg	Gln	Leu	Gly 55	Glu	Lys	Gly	Pro	Суs 60	Gln	Arg	Val	Val
10	Ser 65	Thr	His	Asn	Leu	Trp 70	Leu	Leu	Ser	Phe	Leu 75	Arg	Arg	Trp	Asn	Gly 80
••	Ser	Thr	Ala	Ile	Thr 85	Asp	Asp	Thr	Leu	Gly 90	Gly	Thr	Leu	Thr	Ile 95	Thr
15	Leu	Arg	Asn	Leu 100	Gln	Pro	His	Asp	Ala 105	Gly	Leu	Tyr	Gln	Cys 110	Gln	Ser
	Leu	His	Gly 115	Ser	Glu	Ala	Asp	Thr 120	Leu	Arg	Lys	Val	Leu 125	Val	Glu	Val
20	Leu	Ala 130	Asp	Pro	Leu	Asp	His 135	Arg	Asp	Ala	Gly	Asp 140	Leu	Trp	Phe	Pro
25	Gly 145	Glu	Ser	Glu	Ser	Phe 150	Glu	Asp	Ala	His	Val 155	Glu	His	Ser	Ile	Ser 160
	Arg	Ser	Leu	Leu	Glu 165	Gly	Glu	Ile	Pro	Phe 170	Pro	Pro	Thr	Ser	Ile 175	Leu
30	Leu	Leu	Leu	Ala 180	Cys	Ile	Phe	Leu	Ile 185	Lys	Ile	Leu	Ala	Ala 190	Ser	Ala
	Leu	Trp	Ala 195	Ala	Ala	Trp	His	Gly 200	Gln	Lys	Pro	Gly	Thr 205	His	Pro	Pro
35	Ser	Glu 210	Leu	Asp	Cys	Gly	His 215	Asp	Pro	Gly	Tyr	Gln 220	Leu	Gln	Thr	Leu
40	Pro 225	Gly	Leu	Arg	Asp	Thr 230	Xaa									
	(2)	INFO	ORMA!	rion	FOR	SEQ	ID 1	<b>1</b> 0: 2	216:							
45			(i)	(	A) L B) T	ENGT YPE :	RACT H: 1 ami OGY:	27 a no a	mino cid		ds					
50			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 21	6:			
	Met 1	Gly	Leu	Thr	Gly 5	Phe	Gly	Val	Phe	Phe 10	Leu	Phe	Phe	Gly	Met 15	Ile
55	Leu	Phe	Phe	Asp 20	Lys	Ala	Leu	Leu	Ala 25	Ile	Gly	Asn	Val	Leu 30	Phe	Val
	Ala	Gly	Leu 35	Ala	Phe	Val	Ile	Gly 40	Leu	Glu	Arg	Thr	Phe 45	Arg	Phe	Phe
60	Phe	Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val

	Met 1	Glu	Pro	Leu	Arg 5	Leu	Leu	Ile	Leu	Leu 10	Phe	Va1	Thr	Glu	Leu 15	Ser
5	Gly	Ala	His	Asn 20	Thr	Thr	Val	Phe	Gln 25	Gly	Va1	Ala	Gly	Gln 30	Ser	Leu
	Gln	Val	Ser 35	Cys	Pro	Tyr	Asp	Ser 40	Met	Lys	His	Trp	Gly 45	Arg	Arg	Lys
10	Ala	Trp 50	Cys	Arg	Gln	Leu	Gly 55	Glu	Lys	Gly	Pro	Cys 60	Gln	Arg	Val	Val
15	Ser 65	Thr	His	Asn	Leu	Trp 70	Leu	Leu	Ser	Phe	<b>Leu</b> 75	Arg	Arg	Trp	Asn	Gly 80
10	Ser	Thr	Ala	Ile	Thr 85	Asp	Asp	Thr	Leu	Gly 90	Gly	Thr	Leu	Thr	Ile 95	Thr
20	Leu	Arg	Asn	Leu 100	Gln	Pro	His	Asp	Ala 105	Gly	Leu	Tyr	Gln	Cys 110	Gln	Ser
	Leu	His	Gly 115	Ser	Glu	Ala	Asp	Thr 120	Leu	Arg	Lys	Val	Leu 125	Val	Glu	Val
25	Leu	Ala 130	Asp	Pro	Leu	Asp	His 135	Arg	Asp	Ala	Gly	Asp 140	Leu	Trp	Phe	Pro
30	Gly 145		Ser	Glu	Ser	Phe 150	Glu	Asp	Ala	His	<b>Val</b> 155	Glu	His	Ser	Ile	Ser 160
	Arg	Ser	Leu	Leu	Glu 165	Gly	Glu	Ile	Pro	Phe 170	Pro	Pro	Thr	Ser	Ile 175	Leu
35	Leu	Leu	Leu	Ala 180		Ile	Phe	Leu	Ile 185	Lys	Ile	Leu	Ala	Ala 190	Ser	Xaa
	Leu	Trp	Ala 195		Ala	Trp	His	Gly 200	Gln	Lys	Pro	Gly	Thr 205	His	Pro	Pro
40	Ser	Glu 210		Asp	Cys	Gly	His 215	Asp	Pro	Gly	Tyr	Gln 220	Leu	Gln	Thr	Leu
45	Pro 225		Leu	Arg	Asp	Thr 230										
50	(2)	INF	ORMA													
50			(i)		(A) I (B) 1	CHA ENGI TYPE: TOPOI	TH: 2 ami	231 a .no a	mino acid		ids					
55				SEC												
	1	L			5					10	1				15	
60	Gly	/ Ala	His	Asr 20		Thr	Val	Phe	Glr. 25		/ Val	Ala	Gly	Gln 30		Leu

```
(D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 211:
     Met Ser Leu Phe Phe Leu Leu Thr Leu Ile Ser Lys Leu His Gly Asp
5
                5
                                         10
     Ala Glu Val Cys
10
      (2) INFORMATION FOR SEQ ID NO: 212:
             (i) SEQUENCE CHARACTERISTICS:
15
                    (A) LENGTH: 55 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 212:
20
     Met Pro His Pro Pro Leu Pro Glu Thr Ser Leu Glu Ala Gln Leu Pro
     Met Gly Leu Leu Gln Leu Leu Arg Cys Ser Val Gln Ala Trp Ser Pro
25
      Pro Pro Ser Ser Phe Cys Pro Gly Ser Glu Pro Arg Ser Ala Ser Ala
     His Trp Gly Tyr Trp Trp Pro
30
      (2) INFORMATION FOR SEQ ID NO: 213:
35
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 35 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
40
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 213:
      Asp Pro Glu Thr Arg Trp His His Gly Gly Ser Ala Gln Asn Gly Leu
45
     Leu Met Leu Ile Ser Val Leu Gln Gln Pro Val Ile Gly Thr Gly Ser
      Tyr Leu Cys
              35
50
      (2) INFORMATION FOR SEQ ID NO: 214:
55
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 230 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 214:
60
```

	His	Phe 290	Ser	Thr	Trp	Lys	Ala 295	Thr	Thr	Leu	Asp	Gly 300	Leu	Pro	Asn	Gln
5	Leu 305	Thr	Pro	Ser	Glu	Pro 310	His	Leu	Cys	Leu	Leu 315	Asp	Val	Gly	туг	Leu 320
••	Ile	Asn	Thr	Ser	Cys 325	Leu	Pro	Leu	Leu	Gln 330	Pro	Thr	Arg	Asp	Val 335	Asp
10	Leu	Ile	Leu	Ser 340	Leu	Asp	Tyr	Asn	Leu 345	His	Gly	Ala	Phe	Gln 350	Gln	Leu
15	Gln	Leu	Leu 355	Gly	Arg	Phe	Cys	Gln 360	Glu	Gln	Gly	Ile	Pro 365	Phe	Pro	Pro
	Ile	Ser	Pro	Ser	Pro	Glu	Glu 375		Leu	Gln	Pro	Arg 380		Cys	His	Thr
20	Phe 385		Asp	Pro	Thr	Cys 390		Gly	Ala	Pro	Ala 395		Leu	His	Phe	Pro 400
	Let	ı Val	. Ser	Asp	Ser 405		Arg	Glu	Tyr	Ser 410		Pro	Gly	Val	Arg 415	Arg
25	Thi	Pro	Glu	Glu 420		Ala	Ala	Gly	Glu 425		. Asn	Leu	Ser	Ser 430	Ser	Asp
30	Sei	r Pro	435		тул	Thr	Lys	Val		Туг	Ser	Glr	445	Asp	Val	. Asp
	Ly	s Lev 450	ı Lev	His	Leu	. Thi	His 455		Asn	val	Cys	Asr 460	n Asn	Glm	ı Glu	Gln
35	Le <sup>4</sup>		a Glu	Ala	a Leo	470		n Alā	a Val	l Glr	1 Arg	Arg	g Arg	Glr	ı Arg	480
40	Pr	o Hi	s Xaa	ı												
40																
	(2	) IN	FORM/	ATIO	N FO	R SE	Q ID	NO:	210	:						
45			(i)	SEQ	(A)	LENG	ARAC TH:	13 a	mino	aci	.ds					
			(xi	) SE	(D)	TOPO	LOGY	': 1i	near		ID N	o: 2	10:			
50	Le	eu Gl 1	u Va								o As			e		
55	(3	2) II	JFOR <b>M</b>	ATIC	N FC	R SE	Q II	NO:	211	:						
	,-				QUENC	E CH	iara(	TERI	STIC	S:						
60					(A)	LEN		20 a	mino	aci	ids					

5			(i) :	(	A) L B) T	CHAI ENGT YPE : OPOL	H: 4 ami	83 au no a	mino cid		ds					
			(xi)	SEQ	JENC)	E DE	SCRI	PTIO	N: S	EQ II	OM C	: 20	9:			
10	Met 1	Ala	Thr	Gly	Gly 5	Gly	Ile	Arg	Ala	Met 10	Thr	Ser	Leu	Tyr	Gly 15	Gln
10	Leu	Ala	Gly	Leu 20	Lys	Glu	Leu	Gly	Leu 25	Leu	Asp	Cys	Xaa	Ser 30	Tyr	Ile
15	Thr	Gly	Ala 35	Ser	Gly	Ser	Thr	Trp 40	Ala	Leu	Ala	Asn	Leu 45	Tyr	Lys	Asp
	Pro	Glu 50	Trp	Ser	Gln	Lys	<b>A</b> sp 55	Leu	Ala	Gly	Pro	Thr 60	Glu	Leu	Leu	Lys
20	Thr 65	Gln	Val	Thr	Lys	Asn 70	Lys	Leu	Gly	Val	Leu 75	Ala	Pro	Ser	Gln	Leu 80
25	Gln	Arg	Tyr	Arg	Gln 85	Glu	Leu	Ala	Glu	Arg 90	Ala	Arg	Leu	Gly	Туг 95	Pro
	Ser	Cys	Phe	Thr 100	Asn	Leu	Trp	Ala	Leu 105	Ile	Asn	Glu	Ala	Leu 110	Leu	His
30	Asp	Glu	Pro 115	His	Asp	His	Lys	Leu 120	Ser	Asp	Gln	Arg	Glu 125	Ala	Leu	Ser
	His	Gly 130	Gln	Asn	Pro	Leu	Pro 135	Ile	Tyr	Cys	Ala	Leu 140	Asn	Thr	Lys	Gly
35	Gln 145	Ser	Leu	Thr	Thr	Phe 150	Glu	Phe	Gly	Glu	Trp 155	Суѕ	Glu	Phe	Ser	Pro
40	Tyr	Glu	Val	Gly	Phe 165	Pro	Lys	Tyr	Gly	Ala 170	Phe	Ile	Pro	Ser	Glu 175	Leu
	Phe	Gly	Ser	Glu 180	Phe	Phe	Met	Gly	Gln 185	Leu	Met	Lys	Arg	Leu 190	Pro	Glu
45	Ser	Arg	Ile 195	Cys	Phe	Leu	Glu	Gly 200	Ile	Trp	Ser	Asn	Leu 205	Tyr	Ala	Ala
	Asn	Leu 210	Gln	Asp	Ser	Leu	Tyr 215	Trp	Ala	Ser	Glu	Pro 220	Ser	Gln	Phe	Trp
50	Asp 225	-	Trp	Val	Arg	Asn 230	Gln	Ala	Asn	Leu	Asp 235	Lys	Glu	Gln	Val	Pro 240
55	Leu	Leu	Lys	Ile	Glu 245	Glu	Pro	Pro	Ser	Thr 250	Ala	Gly	Arg	Ile	Ala 255	Glu
رر	Phe	Phe	Thr	Asp 260	Leu	Leu	Thr	Trp	Arg 265	Pro	Leu	Ala	Gln	Ala 270	Thr	His
60	Asn	Phe	Leu 275	Arg	Gly	Leu	His	Phe 280	His	Lys	Asp	Tyr	Phe 285	Gln	His	Pro

	1				5					10					15	
5	Gln	Phe	Leu	Cys 20	His	Glu	Phe	Leu	Arg 25	Xaa	Asn	Pro	Arg	Val 30	Thr	Arg
3	Leu	Leu	Ser 35	Glu	Met	Arg	Ile	His 40	Leu	Leu	Pro	Ser	Met 45	Asn	Pro	Asp
10	Gly	Tyr 50	Glu	Ile	Ala	Tyr	His 55	Arg	Gly	Ser	Glu	Leu 60	Val	Gly	Trp	Ala
	Glu 65	Gly	Arg	Trp	Asn	Asn 70	Gln	Ser	Ile	Asp	Leu 75	Asn	His	Asn	Phe	Ala 80
15	Xaa	Leu	Asn	Thr	Pro 85	Leu	Trp	Glu	Ala	Gln 90	Asp	Asp	Gly	Lys	Val 95	Pro
20	His	Ile	Val	Pro 100	Asn	His	His	Leu	Pro 105	Leu	Pro	Thr	Тут	Туг 110	Thr	Leu
20	Pro	Asn	Ala 115	Thr	Val	Ala	Pro	Glu 120	Thr	Arg	Ala	Val	Ile 125	Lys	Trp	Met
25	Lys	Arg 130	Ile	Pro	Phe	Val	Leu 135	Ser	Ala	Asn	Leu	His 140	Gly	Gly	Glu	Leu
	Val 1 <b>4</b> 5		Ser	Tyr	Pro	Phe 150	Asp	Met	Thr	Arg	Thr 155	Pro	Trp	Ala	Ala	<b>A</b> rg 160
30	Glu	Leu	Thr	Pro	Thr 165	Pro	Asp	Asp	Ala	Val 170	Phe	Arg	Trp	Leu	Ser 175	Thr
35	Val	Tyr	Ala	Gly 180		Asn	Leu	Ala	Met 185	Gln	Asp	Thr	Ser	Arg 190	Arg	Pro
33	Cys	His	Ser 195		Asp	Phe	Ser	Val 200	His	Gly	Asn	Ile	Ile 205	Asn	Gly	Ala
40																
45	(2)	INF	ORMA	TION	FOR	SEQ	ID :	NO:	208:							
			(i)		(A) I (B) T	ENGT	H: 2	4 an			is					
50			(xi)		(D) I				ear N: S	EQ I	D NC	: 20	8:			
	Met 1		Ile	Ser	Cys 5		Leu	Leu	Leu	Ile 10		Asp	Ser	Asp	Glu 15	Met
55	Glu	Asp	Gly	Pro 20	Gly	Val	Gln	Asp								

60 (2) INFORMATION FOR SEQ ID NO: 209:

5	(2)	INF	ORMA!	rion	FOR	SEQ	ID I	NO: 2	205:							
10				(	A) I B) T D) T	ENGT YPE: OPOL	H: 4 ami OGY:	no a lin	ino cid ear	: acid EQ I		: 20	5 :			
15	1		Xaa		5					10					15	
	Pro	Leu	Pro	20	Leu	ren	Pro	His	25 25	Asn	Cys	Glu	Glu	A1a 30	Pro	Trp
20	Gln	Ala	Ala 35	Val	Ile	Gly	Gly	Gly 40	Asp	Arg	Ile					
25	(2)	INF	ORMA:					NO: 2 ERIS		:						
30				(	A) L B) T D) T	ENGT YPE: OPOL	H: 8 ami OGY:	5 am no a lin	ino cid <b>ea</b> r	acid		: 20	6:			
	Met 1	Arg	Asp	Cys	Leu 5	Ser	Leu	Lys	Pro	Arg 10	Pro	Leu	Phe	Pro	Thr 15	Gln
35	Phe	Phe	Phe	Ile 20	Leu	Leu	Leu	Ile	Phe 25	Ile	Ala	Glu	Val	Ala 30	Ala	Ala
40	Val	Val	Ala 35	Leu	Val	Tyr	Thr	Thr 40	Met	Val	Arg	His	Trp 45	Asp	Gly	Gly
	Arg	Glu 50	Glu	Asp	Trp	Ala	Lys 55	Pro	Trp	Glu	Trp	Ala 60	Val	Ala	Cys	Glu
45	Trp 65	Pro	Pro	Ser	Val	Pro 70	Ala	Pro	Lys	His	Trp 75	Pro	Ala	Ser	Pro	Arg 80
	Leu	Ser	Thr	Ser	Xaa 85											
50																
	(2)	INF	ORMAT	NOI	FOR	SEQ	ID 1	10: 2	207 :							
55			(i) :	() ()	A) L B) T	ENGT YPE :	H: 2 ami		mino cid	: aci	is					
60			(xi)	SEQ	JENCI	E DES	SCRI	PTIO	V: SI	_				_		
UU	met	nıs	Gly	ASN	GIU	ATG	⊥eu	٩Ţλ	arg	GIU	Leu	ьeu	Leu	ren	ren	met

	Thr	Pro	Ala	Pro	Thr 165	Gln	Ser	Pro	Glu	Glu 170	Val	Arg	Arg	Leu	His 175	Leu
5	Cys	Thr	Ser	Phe 180	Met	Asp	Met	Leu	Lys 185	Ala	Leu	Phe	Arg	Thr 190	Leu	Gln
	Ala	Met	Leu 195	Leu	Gly	Val	Trp	11e 200	Leu	Leu	Leu	Leu	Ala 205	Ser	Leu	Ala
10	Pro	Leu 210	Trp	Leu	Tyr	Cys	Trp 215	Arg	Met	Phe	Pro	Thr 220	Lys	Gly	Lys	Arg
15	Asp 225	Gln	Lys	Glu	Met	Leu 230	Glu	Val	Ser	Gly	Ile 235	Xaa				
20	(2)	INF	(i)	SEQU ( (	ENCE A) L B) T D) T	CHA ENGT YPE:	RACT H: 9 ami OGY:	ERIS 3 am no a lin	rics ino cid ear	acid			•			
25	Met 1	Ile	•	-				,		EQ I Leu 10				Pro	Val 15	Ala
30	Ala	Ala	Gln	Thr 20		Pro	Gly	Glu	Arg 25	Ser	Ser	Leu	Pro	Ala 30	Phe	Tyr
	Pro	Gly	Thr 35		Gly	Ser	Cys	Ser 40	Gly	Cys	Gly	Ser	Leu 45	Ser	Leu	Pro
35	Leu	Leu 50		Gly	Leu	Val	Ala 55	Ala	Asp	Ala	Val	Ala 60	Ser	Leu	Leu	Ile
40	65	_				70 Tyr					75				Ala	Gln 80
45	(2)	INF	'ORMA	TION			ID	<b>N</b> O:	204:							
50					(A) I (B) I (D) I	ENGT TYPE : TOPOI	TH: 3 ami LOGY:	35 am ino a : lir	nino ncid near	: acid EQ I		): 20	4:			
55		Trp l	Ser	Ala	Gly 5		Gly	Gly	Ala	Ala 10		Pro	Val	Leu	Leu 15	Gly
	Le	ı Lev	ı Leu	Ala 20		Leu	Val	Pro	Gly 25		G1y	Ala	Ala	Lys 30		Gly
60	. מ	a Agr	Ser													

PCT/US98/04482

		210					215					220				
5	Arg 225	Ser	Glu	Gln	Asn	<b>Ar</b> g 230	Arg	Ser	Glu	Glu	Ala 235	His	Arg	Ala	Glu	Gln 240
J	Leu	Gln	Asp	Ala	Glu 245	Glu	Glu	Lys	Asp	Asp 250	Ser	Asn	Glu	Glu	Glu 255	Asn
10	Lys	Asp	Ser	Leu 260	Val	Asp	Asp	Glu	Glu 265	Glu	Lys	Glu	Asp	Leu 270	Gly	Asp
	Glu	Asp	Glu 2 <b>7</b> 5	Ala	Glu	Glu	Glu	Glu 280	Glu	Glu	Asp	Asn	Leu 285	Ala	Ala	Gly
15	Val	<b>As</b> p 290	Glu	Glu	Arg	Ser	Glu 295	Ala	Asn	Asp	Gln	Gly 300	Pro	Pro	Gly	Glu
20	Asp 305	Gly	Val	Thr	Arg	Glu 310	Xaa	Ser	Arg	Ala	<b>X</b> aa 315					
	(2)	INF	ORMA!	rion	FOR	SEQ	ID I	NO: 2	202:							
25				(	B) T D) T	ENGT YPE: OPOL	H: 2 ami OGY:	36 a no a lin	mino cid ear	aci		22	•			
30	Vot	G1	(xi)	_						EQ I Ala				Pro	Gln	¥ic
	met 1	GIY	THE	AIA	Asp 5	Ser	ASp	GIU	Mec	10	PIO	GIU	ма	PIO	15	nis
35	Thr	His	Ile	Asp 20	Val	His	Ile	His	Gln 25	Glu	Ser	Ala	Leu	Ala 30	Lys	Leu
	Leu	Leu	Thr 35	Cys	Cys	Ser	Ala	Leu 40	Arg	Pro	Arg	Ala	Thr 45	Gln	Ala	Arg
40	Gly	Ser 50	Ser	Arg	Leu	Leu	Val 55	Ala	Ser	Trp	Val	Met 60	Gln	Ile	Val	Leu
45	Gly 65		Leu	Ser	Ala	<b>Val</b> 70	Leu	Gly	Gly	Phe	Phe 75	Tyr	Ile	Arg	Asp	Тут 80
	Thr	Leu	Leu	Val	Thr 85	Ser	Gly	Ala	Ala	Ile 90	Trp	Thr	Gly	Ala	Val 95	Ala
50	Val	Leu	Ala	Gly 100		Ala	Ala	Phe	11e 105	Tyr	Glu	Lys	Arg	Gly 110	Gly	Thr
	Tyr	Trp	Ala 115		. Leu	Arg	Thr	Leu 120		Ala	Leu	Ala	Ala 125	Phe	Ser	Thr
55	Ala	11e		Ala	. Leu	Lys	Leu 135		Asn	Glu	Asp	Phe 140		Tyr	Gly	Tyr
60	Ser 145	_	Tyr	Asn	Ser	Ala 150		Arg	Ile	Ser	Ser 155	Ser	Ser	Asp	Trp	Asr 160

	Ala	Asp	Ile	Pro	Asp 85	Arg	Phe	Ser	Ala	Ala 90	Lys	Asp	Glu	Ala	His 95	Asn
5	Ala	Cys	Val	Leu 100	Thr	Ile	Ser	Pro	Val 105	Gln	Pro	Glu	Asp	Asp 110	Ala	Asp
10	Tyr	Tyr	Cys 115	Ser	Val	Gly	Tyr	Gly 120	Phe	Ser	Pro					
15	(2)	INF	ORMAT	SEQUI () ()	ENCE A) L B) T D) T	CHAI ENGT YPE: OPOL	RACT H: 3 ami OGY:	ERIS 15 au no a lin	rics mino cid ear	aci		: 20:	l:			
20	Met 1	Ala	Gly	Gly	Arg 5	Cys	Gly	Pro	Xaa	Leu 10	Thr	Ala	Leu	Leu	Ala 15	Ala
25	Trp	Ile	Ala	Ala 20	Val	Ala	Ala	Thr	Ala 25	Gly	Pro	Glu	Glu	Ala 30	Ala	Leu
	Pro	Pro	Glu 35	Gln	Ser	Arg	Val	Gln 40	Pro	Met	Thr	Ala	Ser 45	Asn	Trp	Thr
30	Leu	Val 50	Met	Glu	Gly	Glu	Тгр 55	Met	Leu	Lys	Phe	Tyr 60	Ala	Pro	Trp	Cys
35	Pro 65	Ser	Cys	Gln	Gln	Thr 70	Asp	Ser	Glu	Trp	Glu 75	Ala	Phe	Ala	Lys	Asn 80
55	Gly	Glu	Ile	Leu	Gln 85	Ile	Ser	Val	Gly	<b>Lys</b> 90	Val	Asp	Val	Ile	Gln 95	Glu
40	Pro	Gly	Leu	Ser 100	Gly	Arg	Phe	Phe	Val 105	Thr	Thr	Leu	Pro	Ala 110	Phe	Phe
	His	Ala	Lys 115	Asp	Gly	Ile	Phe	Arg 120		Tyr	Arg	Gly	Pro 125	Gly	Ile	Phe
45	Glu	Asp 130		Gln	Asn	Tyr	Ile 135		Glu	Lys	Lys	Trp 140	Gln	Ser	Val	Glu
50	Pro 145		Thr	Gly	Trp	Lys 150		Pro	Ala	Ser	Leu 155	Thr	Met	Ser	Gly	Met 160
50	Ala	. Gly	<b>Le</b> u	Phe	Ser 165		Ser	Gly	Lys	Ile 170	Trp	His	Leu	His	Asn 175	Tyr
55	Phe	Thr	. Val	Thr 180		Gly	Ile	Pro	Ala 185	Trp	Cys	Ser	Tyr	Val 190	Phe	Phe
	Val	Ile	Ala 195		Leu	Val	Phe	Gly 200		Phe	Met	Gly	Leu 205	Val	Leu	Val
60	Val	. Ile	e Ser	Glu	Cys	Phe	тут	Val	Pro	Leu	Pro	Arg	His	Leu	Ser	Glu

60

320

	65					70										
5	(2)		ORMAT	SEQUE	ENCE	CHAI	RACTI	ERIS	rics							
10			(xi)	(1	B) T	ENGT YPE: OPOLA E DE:	ami OGY:	no a lin	cid ear			: 19	9:			
15	Met 1	Phe	Thr	Met	Leu 5	Cys	Ile	Asn	Gly	Thr 10	Thr	Pro	Arg	Pro	Leu 15	Pro
15	Val	Pro	Ser	Pro 20	Phe	G1y	Cys	Met	Ile 25	Phe	Phe	Phe	Phe	Lys 30	Asn	Pro
20	Trp	Lys	Gln 35	Arg	Leu	Leu	Gln	Gly 40	Trp	Leu	Gly	Ala	Arg 45	Pro	Ile	His
	Leu	Leu 50	Gly	Tyr	Leu	Pro	Leu 55	Ser	Leu	Leu	Trp	Сув 60	Pro	Phe	Pro	Leu
25	Pro 65	Cys	Ala	Arg	Суз	Ser 70	Val	Val	Tyr	Ile	Ser 75	Ser	Pro	Arg	His	Gly 80
20	Ala	His	Ala	Pro	Arg 85	Asp	Met	Ile	Leu	Ser 90	Leu	Val	Leu	Ala	His 95	Gly
30	Ala	Leu	Tyr	Lys 100	Glu	Leu	Gly	Gly	<b>Ar</b> g 105	Gly	Arg	Lys	Trp	Glu 110	Pro	Ser
35	Xaa															
40	(2)	INF	ORMA	SEQU	ENCE	SEQ CHA ENGI	RACT	ERIS	TICS		.ds					
45			(xi)	(	(D)	YPE: OPOL E DE	OGY:	lir	near	EQ I	D NC	: 20	0:			
	Met 1		Cys	Arg	Cys 5		Ser	Phe	Leu	Leu 10		Gly	Thr	Phe	Leu 15	Ser
50	Val	Ser	Gln	Thr 20		Leu	Ala	Gln	Leu 25		Ala	Leu	Leu	Val 30	Phe	Pro
	Gly	Gln	val 35		Gln	Leu	Ser	Cys 40		Leu	Ser	Pro	Gln <b>4</b> 5		Val	Thr

Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg Ala Gly Ser Ala

Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu Asp His His Arg Pro 65 70 75 80

	Asn	Asp	Thr	Ala 180	Phe	Val	Phe	Pro	Arg 185	Leu	Arg	Asp	Phe	Thr 190	Leu	Ala
5	Met	Ala	Ala 195	Arg	Lys	Ala	Ser	Arg 200	Val	Arg	Val	Pro	Phe 205	Pro	Trp	Val
10	Gly	Thr 210	Gly	Gln	Leu	Val	Tyr 215	Gly	Gly	Phe	Leu	Туr 220	Phe	Ala	Arg	Arg
10	Pro 225	Pro	Gly	Arg	Pro	Gly 230	Gly	Gly	Gly	Glu	Met 235	Glu	Asn	Thr	Leu	Gln 240
15	Leu	Ile	Lys	Phe	His 245	Leu	Ala	Asn	Arg	Thr 250	Val	Val	Asp	Ser	Ser 255	Val
	Phe	Pro	Ala	Glu 260	Gly	Leu	Ile	Pro	Pro 265	Tyr	Gly	Leu	Thr	Ala 270	Asp	Thr
20	Tyr	Ile	<b>As</b> p 275	Leu	Ala	Ala	Asp	Glu 280	Glu	Gly	Leu	Trp	Ala 285	Val	Tyr	Ala
25	Thr	Arg 290		Asp	Asp	Arg	His 295	Leu	Cys	Leu	Ala	Lys 300	Leu	Asp	Pro	Gln
	Thr 305		Asp	Thr	Glu	Gln 310	Gln	Trp	Asp	Thr	Pro 315	Cys	Pro	Arg	Glu	Asn 320
30	Ala	Glu	Ala	Ala	Phe 325	Val	Ile	Cys	Gly	Thr 330	Leu	Tyr	Val	Val	Tyr 335	Asn
	Thr	Arg	Pro	<b>Ala</b> 340		Arg	Ala	Arg	Ile 345	Gln	Cys	Ser	Phe	Asp 350	Ala	Ser
35	Gly	Pro	Xaa 355													
40	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	198:					,		
			(i)	•	(A) I		MH: 7	74 an	TICS mino acid		ls					
45			(xi)		(D) T	OPOI	OGY:	lir		EQ 1	D NC	: 19	8:			
50	Met		. Leu	Pro	Leu 5		Ile	Phe	Val	Leu 10		Pro	Lys	Val	Val 15	Asn
50	Thr	Ser	Asp	Pro 20		Met	Arg	Arg	Glu 25		Glu	Gln	Ser	Met 30		Met
55	Leu	ı Asr	Ser 35		His	Glu	Leu	Pro 40		Val	. Ser	Glu	Phe 45		Thr	Arg
	Let	Phe 50		: Ser	Lys	Ser	Ser 55		Lys	Ser	Ser	Ser 60		Ser	Ser	Lys
60	Thi	c G13	/ Lys	s Ser	Gly	Ala	Gly	, Lys	Arg	Arg	ī					

	(2)	INFO	ORMAI	MOI	FOR	SEQ	ID N	10: 1	196:							
5			(i) s	() ()	A) L B) T D) T	ENGT YPE: OPOL	H: 4 ami OGY:	5 am no a lin	ino cid ear	acid		: 19	<b>6</b> :			
10	Met 1									_				Thr	Ser 15	Ala
15	His	Gly	Cys	Thr 20	Glu -	Thr	Ser	Asp	Ala 25	Gly	Arg	Ala	Ser	Thr 30	Gly	Gly
	Pro	Gln	Arg 35	Thr	Ala	Arg	Thr	Gln 40	Trp	Leu	Leu	Cys	<b>Xaa</b> <b>4</b> 5			
20	(2)	INFO	OR <b>MA</b> T	rion	FOR	SEQ	ID 1	<b>v</b> o: 1	197:							
25			(i) :	(	A) L B) T D) T	ENGT YPE: OPOL	H: 3 ami OGY:	55 a no a lin	mino cid <b>ea</b> r	aci		: 19	7:			
30	Met 1	Gly	Pro	Ser	Thr 5	Pro	Leu	Leu	Ile	Leu 10	Phe	Leu	Leu	Ser	Trp 15	Ser
	Gly	Pro	Leu	Gln 20	Gly	Gln	Gln	His	His 25	Leu	Val	Glu	Tyr	Met 30	Glu	Arg
35	Arg	Leu	Ala 35	Ala	Leu	Glu	Glu	Arg 40	Leu	Ala	Gln	Cys	Gln 45	Asp	Gln	Ser
40	Ser	Arg 50	His	Ala	Ala	Glu	Leu 55	Arg	Asp	Phe	Lys	Asn 60	Lys	Met	Leu	Pro
	65					70					75				Glu	80
45					85					90					Asp 95	
50				100					105	-				110	Glu	
50			115					120					125		Glu	
55		130					135					140			Arg	
	145	_			-	150		-	=		155	_		_	Thr	160
60	Asp	Pro	Leu	Gly	Gln 165	Thr	Glu	Lys	Ile	Tyr 170	Val	Leu	Asp	Gly	Thr 175	Gln

	Ile	Leu	Phe	Phe 20	Ser	Phe	Gly	Ser	Ser 25	Ser	Leu	Pro	Pro	Gly 30	Leu	Pro
5	Pro	Pro	Ala 35	Ser	Leu	Leu	Cys	Cys 40	Ala	Val	Gln	Trp	Gly 45	Ala	Arg	Ala
	Leu	Phe 50	Leu	Pro	Ala											
10																
	(2)	INF	ORMA!	rion	FOR	SEQ	ID 1	WO: 1	.94:							
15				(	A) L B) T D) T	ENGT YPE: OPOL	H: 4 ami OGY:	2 am no a lin	ino cid ear	acid		• 19	1 .			٠
30		_												T 011	<b>T</b> 10	21-
20	Met 1	Leu	Val	Thr	Cys 5	ser	vai	Cys	суѕ	10	Leu	Pne	тър	Leu	15	Ala
25	Ile	Leu	Ala	Gln 20	Leu	Asn	Pro	Leu	Phe 25	Gly	Pro	Gln	Leu	Lys 30	Asn	Glu
23	Thr	Ile	Trp 35	Tyr	Leu	Lys	Tyr	His 40	Trp	Pro						
30	(2)	INF	ORMA'	TION	FOR	SEQ	ID I	NO: 1	195:							
35				(	(A) L (B) T (D) T	ENGT YPE: OPOL	H: 1 ami OGY:	.02 a .no a .lin	mino cid ear	aci		: 19	5:			
40	Met 1	Glu	Gly	Thr	Glu 5	Met	Gly	Ala	Arg	Pro 10	Gly	Gly	His	Pro	Gln 15	Lys
	Trp	Ser	Phe	Leu 20		Ser	Leu	Ala	Leu 25	Trp	Leu	Pro	Leu	Ala 30	Leu	Ser
45	Val	Ser	Leu 35		Leu	Gly	Leu	Ser 40	Leu	Ser	Pro	Pro	Gln 45		Gly	Leu
50	Ser	Leu 50		Cys	Thr	Leu	Ser 55		Cys	Cys	Glu	Gln 60	Trp	Lys	Phe	Lys
50	Gly 65		Pro	Ser	Pro	Ala 70		Leu	Asn	Leu	Gly 75		Gln	Pro	Lys	Lys 80
55	Asp	Lys	Lys	: Leu	Glu 85		Ser	Ile	Ala	Thr 90		Leu	Arg	Glu	Leu 95	Pro
	Glu	Lys	Asn	Ser		Xaa										

WO 98/39446 PCT/US98/04482

	65					70					<b>7</b> 5					80
5	Ala	Arg	Arg	Val	His 85	Glu	Leu	Glu	Arg	Val 90	Lys	Arg	Arg	Cys	Leu 95	Glu
5	Asn	Gly	Asn	Leu 100	Lys	Glu	Lys	Asp	Ile 105	Leu	Val	Leu	Pro	Leu 110	Asp	Leu
10	Thr	Asp	Thr 115	Gly	Ser	His	Glu	Ala 120	Ala	Thr	Lys	Ala	Val 125	Leu	Gln	Glu
	Phe	Gly 130	Arg	Ile	Asp	Ile	Leu 135	Val	Asn	Asn	Gly	Gly 140	Met	Ser	Gln	Arg
15	Ser 145	Leu	Cys	Met	Asp	Thr 150	Ser	Leu	Asp	Val	Туг 155	Arg	Lys	Leu	Ile	Glu 160
20	Leu	Asn	Tyr	Leu	Gly 165	Thr	Val	Ser	Leu	Thr 170	Lys	Cys	Val	Leu	Pro 175	His
20	Met	Ile	Glu	Arg 180	Lys	Gln	Gly	Lys	Ile 185	Val	Thr	Val	Asn	Ser 190	Ile	Leu
25	Gly	Ile	Ile 195	Ser	Val	Pro		Ser 200	Ile	Gly	Tyr	Суѕ	Ala 205	Ser	Lys	His
	Ala	Leu 210	Arg	Gly	Phe	Phe	Asn 215	Gly	Leu	Arg	Thr	Glu 220	Leu	Ala	Thr	Tyr
30	Pro 225	Gly	Ile	Ile	Val	Ser 230	Asn	Ile	Cys	Pro	Gly 235	Pro	Val	Gln	Ser	Asn 240
35	Ile	Val	Ğlu	Asn	Ser 245	Leu	Ala	Gly	Glu	Val 250	Thr	Lys	Thr	Ile	Gly 255	Asn
	Asn	Gly	Asp	Gln 260	Ser	His	Lys	Met	Thr 265	Thr	Ser	Arg	Сув	Val 270	Arg	Leu
40	Met	Leu	Ile 275	Ser	Met	Ala	Asn	Asp 280	Leu	Lys	Glu	Val	Trp 285	Ile	Ser	Glu
	Gln	Pro 290	Phe	Leu	Phe	Ser	Asn 295	Ile	Phe	Val	Ala	Ile 300	His	Ala	Asn	Leu
45	Gly 305	Leu	Val	qzA	Asn	Gln 310	Gln	Asp	Gly	Glu	Glu 315	Lys	Asp	Xaa		
50	(2)	INF	ORMA'	rion	FOR	SEQ	ID I	NO: 1	193:							
			(i)	_ (	A) L	CHA ENGT YPE:	H: 5	3 am	ino		s					
55			(xi)	(	D) T	OPOL E DE	OGY:	lin	ear	EQ I	D NO	: 19	3:			
60	Met 1	Trp	Pro	Ser	Phe 5	Pro	Gln	Val	Arg	Val 10	Gly	Ser	Phe	Leu	Phe 15	Gly

	Thr	Gln 130	His	Ile	Pro	Leu	Туг 135	Gln	Met	Ser	Gly	Phe 140	Tyr	Gly	Lys	Gly
5	Pro 145	Ser	Ile	Lys	Gln	Phe 150	Met	Asp	Ile	Phe	Ser 155	Leu	Pro	Glu	Met	<b>Ala</b> 160
10	Leu	Leu	Ser	Cys	Val 165	Val	Asp	Tyr	Phe	Leu 170	Gly	His	Ser	Leu	Glu 175	Phe
10	Asp	Gln	Ala	His 180	Leu	Tyr	Lys	Asp	Val 185	Thr	Asp	Ala	Ile	Arg 190	Asp	Val
15	His	Val	Lys 195	Gly	Leu	Met	Tyr	Gln 200	Trp	Ile	Glu	Gln	<b>Asp</b> 205	Met	Glu	Lys
	Tyr	1le 210	Leu	Arg	Gly	Asp	Glu 215	Thr	Phe	Ala	Val	Leu 220	Ser	Arg	Leu	Val
20	Ala 225	His	Gly	Lys	Gln	Leu 230	Phe	Leu	Ile	Thr	Asn 235	Ser	Pro	Phe	Ser	Phe 240
25	Val	Asp	Lys	Gly	Met 245	Arg	His	Met	Val	Gly 250	Pro	Asp	Trp	Arg	His 255	Ser
<b></b>	Ser	Met	Trp	Ser 260	Leu	Ser	Arg	Gln	Thr 265	Ser	Pro	Ala	Ser	Ser 270	Leu	Thr
30	Gly	Ala	Ser 275	Phe	Xaa	Glu	Asn	Ser 280	Met	Arg	Arg	Ala	<b>His</b> 285	Phe	Ser	Gly
	Thr	Gly 290		Pro	Ala	Trp	Lys 295		Ala	Arg	Ser	11e 300	Gly	Arg	Glu	Thr
35	Cys 305		Thr	Ser	Tyr	Ala 310	Xaa									
40	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	192 :							
			(i)					TERIS			ids					
45			(xi)		(D) ?	ЮРОІ	OGY:	ino a : lir :PTIC	near	EQ I	D NC	): 19	2:			
<b>5</b> 0	Met		Trp	Glu	Leu 5		Leu	Ттр	Leu	Leu 10		Leu	Cys	Ala	Leu 15	Leu
50	Leu	ı Leu	Leu	Val 20		Leu	Leu	ı Arg	Phe 25		Arg	Ala	Asp	Gly 30		Leu
55	Thr	Leu	Leu 35		Ala	Glu	Trp	Gln 40		Arg	Arg	Pro	Glu 45		Glu	Leu
	Thr	Asp 50		. Val	. Val	Tr	Val 55		Gly	Ala	Ser	Ser 60		' Ile	Gly	Glu
60	Glu	ı Leu	ı Ala	Туг	Glr	Leu	. Ser	: Lys	Lev	Gly	v Val	Ser	Leu	. Val	. Leu	Ser

WO 98/39446 PCT/US98/04482

314

65 70 75 80 Cys Gly Gly Arg 5 (2) INFORMATION FOR SEQ ID NO: 190: 10 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 58 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 190: 15 Met Met Gly Val Leu Gln Leu Leu His Ile Phe Trp Ala Tyr Leu Ile Leu Arg Met Ala His Lys Phe Ile Thr Gly Lys Leu Val Glu Asp Glu 20 25 Arg Ser Thr Gly Lys Lys Gln Arg Ala Gln Arg Gly Arg Arg Leu Gln 40 25 Leu Gly Glu Glu Gln Arg Ala Gly Pro Xaa 50 30 (2) INFORMATION FOR SEQ ID NO: 191: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 311 amino acids (B) TYPE: amino acid 35 (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 191: Met Arg Arg Leu Val His Asp Leu Leu Pro Pro Glu Val Cys Ser Leu 10 40 Leu Asn Pro Ala Ala Ile Tyr Ala Asn Asn Glu Ile Ser Leu Arg Asp Val Glu Val Tyr Gly Phe Asp Tyr Asp Tyr Thr Leu Ala Gln Tyr Ala 45 40 Asp Ala Leu His Pro Glu Ile Phe Ser Thr Ala Arg Asp Ile Leu Ile Glu His Tyr Lys Tyr Pro Glu Gly Ile Arg Lys Tyr Asp Tyr Asn Pro 50 Ser Phe Ala Ile Arg Gly Leu His Tyr Asp Ile Gln Lys Ser Leu Leu 55 Met Lys Ile Asp Ala Phe His Tyr Val Gln Leu Gly Thr Ala Tyr Arg 105 Gly Leu Gln Pro Val Pro Asp Glu Glu Val Ile Glu Leu Tyr Gly Gly 60 115 120

5			(i) : (xi)	(	A) L B) T D) T	ENGT YPE: OPOL	H: 1 ami OGY:	ERIST 46 at no a lin	mino cid ear	aci		: 18	8:			
10	Met 1	Phe	Leu	Thr	Arg 5	Ile	Leu	Cys	Pro	Thr 10	Tyr	Ile	Ala	Leu	Thr 15	Phe
10	Leu	Val	Tyr	Ile 20	Val	Ala	Leu	Val	Ser 25	Gly	Gln	Leu	Cys	Met 30	Glu	Ile
15	Ala	Arg	Gly 35	Asn	Ile	Phe	Phe	<b>Le</b> u <b>4</b> 0	Asn	Glu	Leu	Val	Thr 45	Thr	Phe	Cys
	Cys	Ser 50	Cys	Leu	Leu	Leu	Ser 55	Val	Pro	Tyr	Leu	His 60	Pro	Gly	Phe	Phe
20	Tyr 65	Ser	Ser	Leu	Cys	Lys 70	Суѕ	Cys	Phe	Val	Leu 75	Val	Val	Leu	Ser	Arg 80
25	Ile	Gly	Ser	Val	Asn 85	Glu	Thr	Trp	Ser	Cys 90	Asn	Phe	Ser	Ile	Cys 95	Ser
<i>43</i>	Tyr	Leu	Ile	Phe 100	Gly	Ser	Pro	Ile	Phe 105	Thr	Ala	Val	Ile	Pro 110	Lys	Arg
30	Cys	Ala	Leu 115	Glu	Asp	Ile	Gln	Asn 120	Asn	Pro	Ile	Gly	Cys 125	Leu	Leu	Arg
	Cys	Thr 130	Pro	Ala	Trp	Glu	Thr 135	Glu	Gly	Asp	Ser	Ile 140	Ser	Lys	Lys	Ile
35	Lys 145	Lys														
40	(2)	INF	ORMAT	rion	FOR	SEQ	ID 1	10: J	L89:							
45			(i) :	()	A) L B) T D) T	ENGT YPE: OPOL	H: 8 ami OGY:	4 am no a lin	ino cid ear	acid		: 18:	9 :			
<b>5</b> 0	Met 1	Gly	Ser	Arg	Ala 5	Glu	Leu	Cys	Thr	Leu 10	Leu	G1y	Gly	Phe	Ser 15	Phe
50	Leu	Leu	Leu	Leu 20	Ile	Pro	Gly	Glu	Gly 25	Ala	Lys	Gly	Gly	Ser 30	Leu	Arg
55	Glu	Ser	Gln 35	Gly	Val	Cys	Ser	Lys 40	Gln	Thr	Leu	Val	Val 45	Pro	Leu	His
	Tyr	Asn 50	Glu	Ser	Туг	Ser	Gln 55	Pro	Val	Tyr	Lys	Pro 60	Tyr	Leu	Thr	Leu
60	Cvs	Ala	Glv	Ser	Ala	Ser	Ala	Ala	Leu	Thr	Gly	Pro	Cys	Thr	Ala	Leu

					5					10					15	
5	His	Ile	Leu	Ala 20	Met	Glu	Val	Leu	Ala 25	Trp	Leu	Leu	Ile	Tyr 30	Leu	Leu
J	Gly	Pro	Gly 35	Trp	Val	Pro	Ser	Ala 40	Leu	Xaa	Arg	Leu	His 45	Pro	Gly	His
10	Leu	Ser 50	Gly	Ser	Val	Leu	Val 55	Ser	Ala	Ala	Xaa					
15	(2)	INF			ENCE A) L		RACT H: 1	ERIS 89 a	FICS mino		đs					
20			(xi)		D) T	OPOL	OGY:	lin	ear	EQ I	D NO	: 18	7:			
	Met 1	Asp	Val	Asn	Ile 5	Ala	Pro	Leu	Arg	Ala 10	Trp	Asp	Asp	Phe	Phe 15	Pro
25	Gly	Ser	Asp	Arg 20	Phe	Ala	Arg	Pro	Asp 25	Phe	Arg	Asp	Ile	Ser 30	Lys	Trp
30	Asn	Asn	Arg 35	Val	Val	Ser	Asn	Leu 40	Leu	Tyr	Tyr	Gln	Thr 45	Asn	Tyr	Leu
	Val	Val 50	Ala	Ala	Met	Met	Ile 55	Ser	Ile	Val	Gly	Phe 60	Leu	Ser	Pro	Phe
35	Asn 65	Met	Ile	Leu	Gly	Gly 70	Ile	Val	Val	Val	Leu 75	Val	Phe	Thr	Gly	Phe 80
	Val	Trp	Ala	Ala	His 85	Asn	Lys	Asp	Val	Leu 90	Arg	Arg	Met	Lys	Lys 95	Arg
40	Tyr	Pro	Thr	Thr 100	Phe	Val	Met	Val	Val 105	Met	Leu	Ala	Ser	Tyr 110	Phe	Leu
45	Ile	Ser	Met 115	Phe	Gly	Gly	Val	Met 120	Val	Phe	Val	Phe	Gly 125	Ile	Thr	Phe
	Pro	Leu 130	Leu	Leu	Met	Phe	Ile 135	His	Ala	Ser	Leu	Arg 140	Leu	Arg	Asn	Leu
50	Lys 145	Asn	Lys	Leu	Glu	Asn 150	Lys	Met	Glu	Gly	Ile 155	Gly	Leu	Lys	Arg	Thr 160
	Pro	Met	Gly	Ile	Val 165	Leu	Asp	Ala	Leu	Glu 170	Gln	Gln	Glu	Glu	Gly 175	Ile
55	Asn	Arg	Leu	Thr 180	Asp	Tyr	Ile	Ser	Lys 185	Va1	Lys	Glu	Xaa			

	Asn	Ile	Glu	Cys 20	Leu	Arg	Asp	Phe	Leu 25	Thr	Pro	Pro	Leu	Leu 30	Ser	Val
5	Arg	Phe	Arg 35	Tyr	Val	Gly	Ala	Pro 40	Gln	Ala	Leu	Thr	Leu <b>4</b> 5	Lys	Leu	Pro
	Val	Thr 50	Xaa	Asn	Lys	Phe	Phe 55	G1n	Pro	Thr	Glu	Met 60	Ala	Ala	Gln	Asp
10	Phe 65	Phe	Gln	Arg	Trp	Lys 70	Gln	Leu	Ser	Leu	Pro 75	Gln	Gln	Glu	Ala	Gln 80
15	Lys	Ile	Phe	Lys	Ala 85	Asn	His	Pro	Met	Asp 90	Ala	Glu	Val	Thr	Lys 95	Ala
	Lys	Leu	Leu	Gly 100	Phe	Gly	Ser	Ala	Leu 105	Leu	Asp	Asn	Val	Asp 110	Pro	Asn
20	Pro	Glu	Asn 115	Phe	Val	Gly	Ala	Gly 120	Ile	Ile	Gln	Thr	Lys 125	Ala	Leu	Gln
	Val	Gly 130		Leu	Leu	Arg	Leu 135	Glu	Pro	Asn	Ala	Gln 140	Ala	Gln	Met	Tyr
25	Arg 145		Thr	Leu	Arg	Thr 150	Ser	Lys	Glu	Pro	Val 155	Ser	Arg	His	Leu	Cys 160
30	Glu	Leu	Leu	Ala	Gln 165	Gln	Phe	Xaa								
	(2)	INF	ORMA	TION	FOR	SEQ	ID I	NO:	185:							
35			(i)	(	(A) I (B) 1	ENGI YPE :	ami	3 am	uno cid	: acid	ls					
40			(xi)				.OGY: .SCRI			EQ I	D NC	: 18	5:			
40	Met		туг	Val	Leu 5		Val	Ser	Pro	Leu 10	Leu	Xaa	Phe	Leu	Ala 15	Cys
45	Gly	Leu	Cys	Leu 20		Val	Asn	Trp	Lys 25		Ala	Ile	Ser	Gln 30		Ser
	Leu	. Ser	Phe 35		Asn	Glu	Leu	Glu 40		Pro	Xaa					
50																
	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	186:							
55					(A) 1 (B) 1 (D) 1	ENG: TYPE: TOPOI	.OGY	ino a lino a	mino acid near	eció		): 18	36:		ı	
60			• •	nı.	. 3	1	0	D×0	. The	Dho	Dho	. al-	Pho	LOU	LAU	Glv

	(2)	INF	ORMA'	NOI	FOR	SEQ	ID N	10: 1	182:							
5			(i) .	(	A) L B) T	ENGT YPE :	H: 4 ami:	ERIST 7 am no a lin	ino a		s					
			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: SI	EQ II	OM C	: 18	2:			
10	Met 1	Asp	Ile	Cys	Phe 5	Phe	His	Tyr	Val	Leu 10	Leu	Phe	Phe	Leu	Val 15	Arg
15	Cys	Ala	Leu	Val 20	Val	Leu	Ile	Leu	Leu 25	Cys	Gln	Gly	Trp	Gly 30	Asn	Gly
	Gly	Gly	Cys 35	Val	Gly	Arg	Val	Leu 40	Ile	Ile	Val	Phe	Ser 45		Val	
20																
	(2)	INF		rion 												
25			(i)	(	A) L B) T	ENGT YPE :	H: 9 ami	ERIS 3 am no a lin	ino cid		s					
			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 18	3 :			
30	Met 1	Ala	Ser	Leu	Gly 5	His	Ile	Leu	Val	Phe 10	Cys	Val	Gly	Leu	Leu 15	Thr
35	Met	Ala	Lys	Ala 20	Glu	Ser	Pro	Lys	Glu 25	His	Asp	Pro	Phe	Thr 30	Tyr	Asp
	Tyr	Gln	Ser 35	Leu	Gln	Ile	Gly	Gly 40	Leu	Val	Ile	Ala	Gly 45	Ile	Leu	Phe
40	Ile	Leu 50	_	Ile	Leu	Ile	Val 55	Leu	Ser	Arg	Arg	Cys 60	Arg	Сув	Lys	Phe
	Asn 65	Gln	Gln	Gln	Arg	Thr 70	Gly	Glu	Pro	Asp	Glu 75	Glu	Glu	Gly	Thr	Phe 80
45	Arg	Ser	Ser	Ile	Arg 85	Arg	Leu	Ser	Thr	Arg 90	Arg	Arg	Xaa			
50	(2)	INF	ORMA	TION	FOR	SEQ	ID 1	NO: 1	184:							
55				(	A) I B) T D) T	ENGT YPE: OPOL	H: 1 ami OGY:	68 a no a lin	mino cid ear	aci						
			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 18	4:			
60	Met 1		Thr	Lys	Glu 5	Phe	Gly	Xaa	Gly	Arg 10	Ala	Val	Gln	Gln	Val 15	Leu

	Ala	Ala	Ala	Leu 20	Val	Leu	Ile	Ser	Ile 25	Val	Ala	Phe	Thr	Thr 30	Ala	Thr
5	Lys	Met	Pro 35	Ala	Leu	His	Arg	His 40	Glu	Glu	Glu	Lys	Phe 45	Phe	Leu	Asn
	Ala	Lys 50	Gly	Gln	Lys	Glu	Thr 55	Leu	Pro	Ser	Ile	Trp 60	Asp	Ser	Pro	Thr
10	Lys 65	Gln	Leu	Ser	Val	Val 70	Val	Pro	Ser	Tyr	Asn 75	Glu	Glu	Lys	Arg	Leu 80
15	Pro	Val	Met	Met	Asp 85	Glu	Ala	Leu	Ser	Туг 90	Leu	Glu	Lys	Arg	Gln 95	Lys
13	Arg	Asp	Pro	Ala 100	Phe	Thr	тут	Glu	Val 105	Ile	Val	Val	Asp	<b>As</b> p 110	Gly	Ser
20	Lys	Ąsp	Gln 115	Thr	Ser	Lys	Val	Ala 120	Phe	Lys	Tyr	Cys	Gln 125	Lys	Tyr	Gly
	Ser	Asp 130	_	Val	Arg	Val	Ile 135	Thr	Leu	Val	Lys	Asn 140	Arg	Gly	Lys	Gly
25	Gly 145		Ile	Arg	Met	Gly 150	Ile	Phe	Ser	Ser	Arg 155	Gly	Glu	Lys	Ile	Leu 160
30	Met	Ala	Asp	Ala	Asp 165		Ala	Thr	Lys	Phe 170		Asp	Val	Glu	Lys 175	Leu
50	Glu	Lys	Gly	Leu 180	Asn	Asp	Leu	Gln	Pro 185		Pro	Asn	Gln	Met 190	Ala	Ile
35	Ala	Cys	Gly 195		Arg	Ala	His	Leu 200		Lys	Glu	Ser	Ile 205	Ala	Gln	Arg
	Ser	Tyr 210		Arg	Thr	Leu	Leu 215		Tyr	Gly	Phe	His 220		Leu	Val	Trp
40	Phe 225		ı Cys	Val	Lys	Gly 230		Arg	Asp	Thr	Gln 235		Gly	Phe	Lys	Leu 240
45	Phe	e Thi	Arg	g Glu	245		Ser	Arg	Thr	250		Ser	Leu	His	Val 255	Glu
75	Arg	Tr	Ala	260		Val	. Glu	ı Lev	Leu 265		: Ile	Ala	Gln	270		Lys
50	Ile	e Pro	275		a Glu	ı Ile	Ala	280		ı Trp	Thr	Glu	285		Gly	Ser
	Ly	s Let 29		l Pro	o Phe	e Trp	295		Leu	ı Glr	n Met	300		Asp	Leu	ı Leu
55	Ph.		e Arg	g Le	u Arg	Тут 31(		ı Thi	Gly	/ Ala	315		j Lev	ı Glu	Glr	320
	Ar	g Ly	s Me	t Ası	n											

				20					25					30		
5	Glu	Trp	Lys 35	Lys	Leu	Ile	Met	Val 40	Gln	His	Trp	Pro	Glu 45	Thr	Val	Суя
3	Glu	Lys 50	Ile	Gln	Asn	Asp	Cys 55	Arg	Asp	Pro	Pro	Asp 60	Tyr	Trp	Thr	Ile
10	His 65	Gly	Leu	Trp	Pro	Asp 70	Lys	Ser	Glu	Gly	Cys 75	Asn	Arg	Ser	Trp	Pro 80
	Phe	Asn	Leu	Glu	G1u 85	Ile	Lys	Asp	Leu	Leu 90	Pro	Glu	Met	Arg	Ala 95	Туз
15	Trp	Pro	Asp	Val 100	Ile	His	Ser	Phe	Pro 105	Asn	Arg	Ser	Arg	Phe 110	Trp	Lys
20	His	Glu	Trp 115	Glu	Lys	His	Gly	Thr 120	Cys	Ala	Ala	Gln	Val 125	Asp	Ala	Leu
-	Asn	Ser 130	Gln	Lys	Lys	Tyr	Phe 135	Gly	Arg	Ser	Leu	Glu 1 <b>4</b> 0	Leu	туr	Arg	Glu
25	Leu 145	Asp	Leu	Asn	Ser	Val 150	Leu	Leu	Lys	Leu	Gly 155	Ile	Lys	Pro	Ser	11e
	Asn	Tyr	Tyr	Gln	Val 165	Ala	Asp	Phe	Lys	Asp 170	Ala	Leu	Ala	Arg	<b>Va</b> l 175	Тут
30	Gly	Val	Ile	Pro 180	Lys	Ile	Gln	Cys	Leu 185	Pro	Pro	Ser	Gln	Asp 190	Glu	Glu
35	Val	Gln	Thr 195	Ile	Gly	Gln	Ile	Glu 200	Leu	Cys	Leu	Thr	Lys 205	Gln	Asp	Glr
	Gln	Leu 210	Gln	Asn	Cys	Thr	Glu 215	Pro	Gly	Glu	Gln	Pro 220	Ser	Pro	Lys	Glr
40	Glu 225	Val	Trp	Leu	Ala	Asn 230	Gly	Ala	Ala	Glu	Ser 235	Arg	Gly	Leu	Arg	Val 240
	Cys	Glu	Asp	Gly	Pro 245	Val	Phe	Tyr	Pro	Pro 250	Pro	Lys	Lys	Thr	Lys 255	His
45																
50	(2)	INFO	ORMAG	rton.	FOR	SEO	ID N	JO: 1	181 :							
	,_,			SEQUI	ENCE	CHAI	RACT	ERIS.	rics mino		da.					
55			(xi)	Ċ	B) T D) T	YPE: OPOL	ami: OGY:	no a	cid			: 183	l:			
	Met 1			_					Ala	-				Ala	Leu 15	Ala
60	•				,					<i>1</i> 0					1.0	

	Gly 65	His	Glu	Thr	Met	Lys 70	Glu	Val	Leu	Glu	Gln 75	Ala	Gly	Ala	Trp	Ile 80
5	Pro	Leu	Val	Met	Lys 85	Gln	Cys	His	Pro	Asp 90	Thr	Lys	Lys	Phe	Leu 95	Cys
10	Ser	Leu	Phe	Ala 100	Pro	Va1	Суѕ	Leu	<b>As</b> p 105	Asp	Leu	Asp	Glu	Thr 110	Ile	Gln
10	Pro	Cys	His 115	Ser	Leu	Cys	Val	Gln 120	Val	Lys	Asp	Arg	Cys 125	Ala	Pro	Val
15	Met	Ser 130	Ala	Phe	Gly	Phe	Pro 135	Trp	Pro	Asp	Met	Leu 140	Glu	Cys	Asp	Arg
	Phe 145	Pro	Gln	Asp	Asn	Asp 150	Leu	Cys	Ile	Pro	<b>Le</b> u 155	Ala	Ser	Ser	Asp	His 160
20	Leu	Leu	Pro	Ala	Thr 165	Glu	Glu	Ala	Pro	Lys 170	Val	Cys	Glu	Ala	Cys 175	Lys
25	Asn	Lys	Asn	Asp 180	Asp	Asp	Asn	Asp	Ile 185	Met	Glu	Thr	Leu	Cys 190	Lys	Asn
23	Asp	Phe	Ala 195		Lys	Ile	Lys	Val 200	Lys	Glu	Ile	Thr	Tyr 205	Ile	Asn	Arg
30	Asp	Thr 210		Ile	Ile	Leu	Glu 215	Thr	Lys	Ser	Lys	Thr 220	Ile	Tyr	Lys	Leu
	Asn 225		Val	Ser	Glu	Arg 230	Asp	Leu	Lys	Lys	Ser 235	Val	Leu	Trp	Leu	Lys 240
35	Asp	Ser	Leu	Gln	Cys 245		Cys	Glu	Glu	Met 250	Asn	Asp	Ile	Asn	Ala 255	Pro
40	Tyr	Leu	Val	Met 260		Gln	Lys	Gln	Gly 265		Glu	Leu	Val	Ile 270	Thr	Ser
40	Val	Lys	Arg 275		Gln	Lys	Gly	Gln 280	Arg	Glu	Phe	Lys	Arg 285	Ile	Ser	Arg
45	Ser	1le 290	Arg	Lys	Leu	Gln	Cys 295									
	(2)	TNE	'ORMA	TION	FÓR	SEC	ID	NO:	180:							
50	(-/			SEQU	JENCE	CHA	RACI	TERIS	TICS		ids					
55			(vi)		(B) ? (D) ?	TYPE TOPOI	am:	ino a : lir	cid lear			): 18	10:			
55	Met					Leu					Leu			Leu	. Cys 15	Leu
60			ı Lei	Cvs			r Glu	r Ala	Asc			Leu	Ara	asp		

WO 98/39446

	(2)	INF	RMAT	MOI	FOR	SEQ	ID 1	NO: 1	178:							
5				- (. ()	A) L: B) T D) T	ENGT YPE: OPOL	H: 1 ami OGY:	ERIS 55 a no a lin PTIO	mino cid ear	aci		: <b>17</b> !	8:			
10	Met 1	Thr	Arg	Gly	Gly 5	Pro	Gly	Gly	Arg	Pro 10	Gly	Leu	Pro	Gln	Pro 15	Pro
15	Pro	Leu	Leu	Leu 20	Leu	Leu	Leu	Leu	Pro 25	Leu	Leu	Leu	Val	Thr 30	Ala	Glu
••	Pro	Pro	Lys 35	Pro	Ala	Gly	Val	Tyr 40	Tyr	Ala	Thr	Ala	Tyr 45	Trp	Met	Pro
20	Ala	Glu 50	Lys	Thr	Val	Gln	Val 55	Lys	Asn	Val	Met	Asp 60	Lys	Asn	Gly	Asp
	Ala 65	Tyr	Gly	Phe	Tyr	Asn 70	Asn	Ser	Val	Lys	Thr 75	Thr	Gly	Trp	Gly	Ile 80
25	Leu	Glu	Ile	Arg	Ala 85	Gly	Tyr	Gly	Ser	Gln 90	Thr	Leu	Ser	Asn	Glu 95	Ile
30	Ile	Met	Phe	Val 100	Ala	Gly	Phe	Leu	Glu 105	Gly	Tyr	Leu	Ile	Ala 110	Pro	His
	Met	Asn	<b>Asp</b> 115	His	Tyr	Thr	Asn	Leu 120	Tyr	Pro	Gln	Leu	Ile 125	Thr	Lys	Pro
35	Ser	Ile 130	Met	Asp	Lys	Val	Gln 135	Asp	Phe	Met	Glu	Lys 140	Gln	Asp	Lys	Val
	Asp 145	Pro	Glu	Lys	Tyr	Gln 150	Arg	Ile	Gln	Asp	Xaa 155					
40	(2)	TNF	ORMA	rion	FOR	SEO	ID 1	NO: I	179:							
45	1-7		(i)	SEQU ( ) (	ENCE A) L B) T D) T	CHA ENGT YPE: OPOL	RACT H: 2 ami OGY:	ERIS 95 a no a lin PTIO	TICS mino cid ear	aci		• 17	9.			
50	Met 1	Leu		_						_				Ala	Ser 15	His
		Cys	Leu	Gly 20		Ala	Arg	Gly	Leu 25		Leu	Phe	Gly	Gln 30		Asp
55	Phe	Ser	Tyr 35		Arg	Xaa	Asn	Cys 40	Lys	Pro	Ile	Pro	Val 45	Asn	Leu	Gln
60	Leu	Cys 50	His	Gly	Ile	Glu	Tyr 55		Asn	Met	Arg	Leu 60	Pro	Asn	Leu	Leu

	Phe	Leu	Ser	Arg	Gly 85	Arg	Glu	Ala	Glu	Val 90	Leu	Val	Ala	Arg	Gly 95	Val
5	Arg	Val	Lys	Val 100	Asn	Glu	Ala	Tyr	Arg 105	Phe	Arg	Val	Ala	Leu 110	Pro	Ala
10	Tyr	Pro	Ala 115	Ser	Leu	Thr	Asp	Val 120	Ser	Pro	Gly	Ala	Glu 125	Arg	Ala	Ala
	Pro	Gln 130	Arg	Leu	Arg	Tyr	Leu 135	Ser	Leu	Xaa						
15	(2)	INF	ORMA'	rion	FOR	SEQ	ID 1	<b>1</b> 0: 1	L77 :							
20			(i) :	- (	A) L B) T D) T	ENGT YPE: OPOL	H: 1 ami OGY:	79 a no a lin	mino cid ear	aci		: 17	7:			
25	Met 1	Pro	Ala	Leu	Arg 5	Pro	Ala	Leu	Leu	Trp 10	Ala	Leu	Leu	Ala	Leu 15	Trp
	Leu	Cys	Cys	Ala 20	Thr	Pro	Ala	His	Ala 25	Leu	Gln	Cys	Arg	Asp 30	Gly	Tyr
30	Glu	Pro	Cys 35	Val	Asn	Glu	Gly	Met 40	Cys	Val	Thr	Tyr	His 45	Asn	Gly	Thr
35	Gly	Tyr 50	Cys	Lys	Gly	Pro	Glu 55	Gly	Phe	Leu	Gly	Glu 60	Tyr	Cys	Gln	His
	Arg 65	Asp	Pro	Cys	Glu	Lys 70	Asn	Arg	Cys	Gln	Asn 75	Gly	Gly	Thr	Cys	<b>Val</b> 80
40	Ala	Gln	Ala	Met	Leu 85	Gly	Lys	Ala	Thr	Cys 90	Arg	Cys	Ala	Ser	Gly 95	Phe
	Thr	Gly	Glu	Asp 100	Cys	Gln	Tyr	Ser	Thr 105	Ser	His	Pro	Cys	Phe 110	Val	Ser
45	Arg	Pro	Cys 115	Leu	Asn	Gly	Gly	Thr 120	Cys	His	Met	Leu	Ser 125	Arg	Asp	Thr
50	Tyr	Glu 130	Cys	Thr	Cys	Gln	Val 135	Gly	Phe	Thr	Gly	Lys 140	Glu	Cys	Gln	Trp
	Thr 145	_	Ala	Суs	Leu	Ser 150	His	Pro	Cys	Ala	Asn 155	Gly	Ser	Thr	Cys	Thr 160
55	Thr	Val	Ala	Asn	His 165	Phe	Leu	Gln	Met	Pro 170	His	Arg	Leu	His	Arg 175	Ala
	Glu	Val	Xaa													

	Tyr	Asp	Asn	Pro	His 85	Met	Val	Pro	Pro	Asp 90	Lys	Cys	Arg	Cys	95	Val
5	Gly	Ser	Ile	Leu 100	Ser	Glu	Gly	Glu	Glu 105	Ser	Pro	Ser	Pro	Glu 110	Leu	Ile
	Asp	Leu	Туг 115	Gln	Lys	Phe	Gly	Phe 120	Lys	Val	Phe	Ser	Phe 125	Pro	Glu	Pro
10	Ser	His 130	Val	Val	Thr	Ala	Thr 135	Phe	Pro	Leu	Thr	Pro 140	Pro	Phe	Cys	Pro
15	Ile 145	Trp	Leu	Gly	Tyr	Pro 150	Pro	Cys	Pro	Ser	Cys 155	Leu	Gly	His	Leu	His 160
15	Gln	Gly	Ala	Glu	Ala 165	Val	Cys	Leu	Ser	Ser 170	Ala	Gly	Asp	Leu	Pro 175	Gly
20	Arg	Pro	Glu	Ser 180	Ile	Ser	Cys	Ala	His 185	Trp	His	Gly	Gln	Gly 190	Asp	Phe
	Tyr	Val	Pro 195	Glu	Met	Lys	Glu	Thr 200	Glu	Trp	Lys	Trp	Arg 205	Gly	Leu	Val
25	Glu	Ala 210	Ile	Asp	Thr	Gln	Val 215	Asp	Gly	Thr	Gly	Ala 220	Asp	Thr	Met	Ser
30	Asp 225		Ser	Ser	Val	Ser 230	Leu	Glu	Val	Ser	Pro 235	Gly	Ser	Arg	Glu	Thr 240
	Ser	Ala	Ala	Thr	Leu 245	Ser	Pro	Gly	Ala	Ser 250	Ser	Arg	Gly	Trp	Asp 255	Asp
35	Gly	Asp	Thr	Arg 260		Glu	His	Ser	<b>Xaa</b> 265							
40	(2)	INF		TION SEQU	ENCE	СНА	RACT	ERIS			.ds					
45			(xi)		(Q)	OPOI	OGY:	no a lir	ear	EQ I	D NC	): 17	6:			
	Met 1		Gln	Leu	Phe 5		Pro	Leu	Leu	Ala 10		Leu	Val	Leu	Ala 15	Gln
50	Ala	Pro	Ala	Ala 20		. Ala	. Asp	Val	Leu 25		Gly	Asp	Ser	Ser		Asp
EE	Arg	Ala	Phe 35		Val	Arg	Ile	· Ala		Asp	Ala	Pro	Leu 45		Gly	Val
55	Leu	Gly 50		Ala	Leu	Thr	Ile 55		Cys	His	Val	. His		Leu	Arg	Pro
60	Pro		Ser	Arg	, Arg	Ala 70		. Leu	Gly	Ser	Pro 75		Val	. Lys	Trp	Thr 80

				20					25					30		
5	Gln	Leu	Trp 35	Phe	Phe	Arg	Phe	Val 40	Val	Asn	Ala	Ala	Gly 45	Tyr	Ala	Ser
,	Phe	Met 50	Val	Pro	Gly	Tyr	<b>Le</b> u 55	Leu	Val	Gln	Tyr	Phe 60	Arg	Arg	Lys	Asn
10	Tyr 65	Leu	Glu	Thr	Gly	Arg 70	Gly	Leu	Cys	Phe	Pro 75	Leu	Val	Lys	Ala	Cys 80
	Val	Phe	Gly	Asn	<b>Glu</b> 85	Pro	Lys	Ala	Ser	Asp 90	Glu	Val	Pro	Leu	Ala 95	Pro
15	Arg	Thr	Glu	Ala 100	Ala	Glu	Thr	Thr	Pro 105	Met	Trp	Gln	Ala	Leu 110	Lys	Leu
20	Leu	Phe	Суs 115	Ala	Thr	Gly	Leu	Gln 120	Val	Ser	Tyr	Leu	Thr 125	Trp	Gly	Val
	Leu	Gln 130	Glu	Arg	Val	Met	Thr 135	Arg	Ser	Tyr	Gly	Ala 140	Thr	Ala	Thr	Ser
25	Pro 145	Gly	Glu	Arg	Phe	Thr 150	Asp	Ser	Gln	Phe	Leu 155	Val	Leu	Met	Asn	Arg 160
	Val	Leu	Ala	Leu	Ile 165	Val	Ala	Gly	Leu	Ser 170	Cys	Val	Leu	Суѕ	Lys 175	Gln
30	Pro	Arg	His	Gly 180	Ala	Pro	Met	Tyr	Arg 185	Tyr	Ser	Phe	Cys	Gln 190	Pro	Val
35	Gln	Cys	Ala 195	Xaa												
40	(2)	INF	ORMA!													
40			(1)	(	A) L B) T	ENGT YPE:	H: 2		mino cid	: aci	ds					
45			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 17	5:			
	Met 1	Ser	Asp	Leu	Leu 5	Leu	Leu	Gly	Leu	Ile 10	Gly	Gly	Leu	Thr	Leu 15	Leu
50	Leu	Leu	Leu	Thr 20	Leu	Leu	Ala	Phe	<b>Ala</b> 25	Gly	Tyr	Ser	Gly	Leu 30	Leu	Ala
	Gly	Val	Glu 35	Val	Ser	Ala	Gly	Ser 40	Pro	Pro	Ile	Arg	Asn 45	Val	Thr	Val
55	Ala	Туr 50	Lys	Phe	His	Met	Gly 55	Leu	Tyr	Gly	Glu	Thr 60	Gly	Arg	Leu	Phe
60	Thr 65	Glu	Ser	Суѕ	Ser	Ile 70	Ser	Pro	Lys	Leu	Arg 75	Ser	Ile	Ala	Val	Тут 80

	Gln	Ser	Ala	Phe 100	Gln	Val	Ala	Val	Ala 105	Ala	Asn	Gln	His	Leu 110	Ile	Val
5	Gln	Asp	Leu 115	Val	Asn	Ile	Gly	Ala 120	Gln	Val	Asn	Thr	Thr 125	Asp	Суз	Trp
10	Gly	Arg 130	Thr	Pro	Leu	His	Val 135	Cys	Ala	Glu	Lys	Gly 140	His	Ser	Gln	Val
10	Leu 145	Gln	Ala	Ile	Gln	Lys 150	Gly	Ala	Val	Gly	Ser 155	Asn	Gln	Phe	Val	<b>Asp</b> 160
15	Leu	Glu	Ala	Thr	Asn 165	Tyr	Asp	Gly	Leu	Thr 170	Pro	Leu	His	Cys	Ala 175	Val
	Ile	Ala	His	Asn 180	Ala	Val	Val	His	Glu 185	Leu	Gln	Arg	Asn	Gln 190	Gln	Pro
20	His	Ser	Pro 195	Glu	Val	Gln	Glu	Leu 200	Leu	Leu	Lys	Asn	Lys 205	Ser	Leu	Val
25	Asp	Thr 210		Lys	Cys	Leu	Ile 215	Gln	Met	Gly	Ala	Ala 220		Glu	Ala	Lys
23	Asp 225		Lys	Ser	Gly	Arg 230		Ala	Leu	His	Leu 235		Ala	Glu	Glu	Ala 240
30	Asn	Leu	Glu	Leu	1le 245		Leu	Phe	Leu	Glu 250		Pro	Ser	Суз	Leu 255	Ser
	Phe	Val	. Asn	Ala 260		Ala	Tyr	Asn	Gly 265		Thr	Ala	Leu	His 270		Ala
35	Ala	Ser	275		туг	Arg	Leu	Thr 280		Leu	Asp	Ala	Val 285		Leu	Leu
40	Met	290		: Gly	/ Ala	. Asp	295		Thr	Arg	Asn	1 Leu 300		Asn	Glu	Gln
40	Pro 305		L His	Lev	ı Val	. Pro		Gly	Pro	Val	Gly 315		Glr	ılle	Arg	320
45	Ile	e Let	ı Lys	Gly	7 Lys 325		: Ile	e Glr	ı Glr	330		Pro	Pro	туг	•	
	(2)		70771	N MT C	N FOR	) CTC(	n Th	NO.	174							
50	(2)	) IN			UENC:		ARAC'	TERI:	STIC	s:	i đe					
55			, .		(B) (D)	TYPE TOPO	: am	ino : li	acid near			O • 1'	74.			
55	Me	t As			QUEN a Tri									a Phe	e Pro	ser
		1			!	5				1	0				15	5
60	T.=	n G1	V Al	a Gl	v Gl	v Gl	u Th	r Pr	o Gl	u Al	a Pr	o Pro	o Gl	u Sei	r Tr	o Thr

			35					40					45			
5	Leu Val 65	<b>Le</b> u 50	Ser	Phe	Leu	Gly	Arg 55	Gln	Leu	Glu	Ala	Pro 60	Leu	Pro	Pro	Met
10	(2)	INFO	ORMAT	rion	FOR	SEQ	ID N	ю: 1	.72 :							
15				(1	A) Li B) T D) T	ENGTI YPE : OPOLA	H: 7: amin DGY:	5 am no a lin	ino cid ear	acid		: 17:	2:			
20	Met 1	Tyr	Lys	Gly	Lys 5	Leu	Val	Ile	Val	Leu 10	Ile	Leu	Leu	Leu	Leu 15	Pro
	Ser	His	Phe	Met 20	Phe	Leu	Thr	Gln	Суs 25	Lys	Glu	Ile	Lys	His 30	Asn	Leu
25	Lys	Lys	Asn 35	Met	Ser	Leu	Leu	Leu 40	Phe	Thr	Ile	Lys	Ser 45	Trp	Leu	Tyr
30	Ser	Ala 50	Ser	Leu	Gly	Ile	Leu 55	туг	Asn	Trp	Gln	His 60	Leu	Thr	Ala	Gln
30	Val 65	Asp	Gln	Cys	Thr	Ser 70	Leu	Ile	Leu	Ile	His 75					
35	(2)	INF	ORMA'	TION	FOR	SEQ	ID I	NO: í	173:							
40				(	A) L B) T D) T	ENGT YPE : OPOL	H: 3 ami OGY:	34 a no a lin	mino cid ear	aci		: 17	3:			
45	Met 1		Gly	His	Glu 5	Met	Ala	Ser	Xaa	Ser 10	Ser	Asn	Thr	Ser	Leu 15	Pro
	Phe	Ser	· Asn	<b>M</b> et 20	Gly	Asn	Pro	Met	Asn 25		Thr	Gln	Leu	Gly 30	Lys	Ser
50	Leu	Phe	Gln 35	Trp	Gln	Val	Glu	Gln 40	Glu	Glu	Ser	Lys	Leu 45		Asn	Ile
	Ser	Gln 50		Gln	Phe	Leu	Ser 55		Asp	Ala	Asp	Gly 60		Thr	Phe	Leu
55	His 65		Ala	Val	Ala	Gln 70	Gly	Arg	Arg	Ala	Leu 75		Tyr	Val	Leu	Ala 80
60	Arg	Lys	: Met	Asn	Ala		His	Met	Leu	Asp 90		Lys	Glu	His	Asn 95	

	Asp 145	Ile	Gly	Asp	His	Gln 150	Pro	Phe	Ala	Asn	Ala 155	His	Asp	Val	Leu	<b>Ala</b> 160
5	Arg	Ser	Arg	Ser	<b>Arg</b> 165	Ala	Asn	Val	Leu	<b>As</b> n 170	Lys	Val	Glu	Tyr	Gly 175	Thr
	Ala	Ala	Leu	Glu 180	Ala	Ser	Ser	Pro	Arg 185	Ala	Ala	Lys	Ser	Leu 190	Ser	Leu
10	Thr	Gly	Met 195	Leu	Ser	Ser	Ala	Asn 200	Trp	Gly	Ile	Glu	Phe 205	Lys	Val	Thr
15	Arg	Lys 210	Lys	Gln	Ala	Asp	Asn 215		Lys	Gly	Thr	Asp 220	Trp	Val	Leu	Leu
13	Gly 225		Ile	Leu	Ile	Pro 230	Cys	Xaa								
20	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	170:							
25				+	(A) I (B) T (D) T	LENGT TYPE : TOPOI	CH: COGY	72 an ino a : lir	nino acid near	ació		): 17	'O:			
30	Met		: Ala	Ile	Phe 5		Phe	e Gln	Ser	Leu 10		Thr	Val	. Ile	Leu 15	Leu ;
	Leu	ılle	e Cys	Thr 20		: Ala	туг	: Ile	Arg 25		. Le	Ala	Pro	Ser 30		ı Leu
35	Asp	Arg	J Asr 35		Thr	Gly	, Le	Let 40		/ Ile	∍ Phe	Trp	45		: Ala	a Arg
40		50	)				5	5		l Ala	a Vai	Cys 60		s Il€	val	l Met
	Ala 69		e Sei	r Ile	e Lev	ı Ph∈ 70		e Glr	1							
45	(2	) IN	FORM	ATIO	N FOI	r seq	Q ID	NO:	171	:						
			(i)	SEQ							_					
50								65 a uno			.ds					
			(xi	) SE	(D)	TOPO	LOGY	: li	near	•	ID N	0: 1	71:			
55		t Gl 1	y Th	r Ph		r Le	u Se	r Le	u Ph		y Le O	u Me	t Gl	y Va	l Al	a Phe 5
	G1	у Ме	t As		u Gl O	u Se	r Se	r Le		u G1 5	u As	p Hi	s Ar	g Il 3	e Ph O	e Trp
60	Le	u Il	e Th	r Gl	y Il	e Me	t Ph	e Me	t Gl	y Se	r Gl	y Le	u Il	e Tr	p Ar	g Arg

5	(2)	INF	ORMAT	MOIT	FOR	SEQ	ID 1	NO: 1	L68:							
J			(i) :	- (. (:	A) L B) T	ENGT YPE :	H: 5 ami	ERIS 8 am no a lin	ino cid		s					
10			(xi)	•			_			EQ II	D NO	: 16	8:			
	Met 1	Gly	Trp	Ser	Ala 5	Gly	Leu	Leu	Phe	Leu 10	Leu	Ile	Leu	Tyr	Leu 15	Pro
15	Val	Pro	Gly	Trp 20	Met	Glu	Arg	Glu	<b>As</b> p 25	Gly	Glu	Thr	Gly	His 30	Leu	Ser
20	Pro	Gln	Ala 35	Pro	Gly	Arg	Glu	Tyr 40	Arg	Gly	Phe	Tyr	Ser 45	Val	Pro	Pro
-	Asp	Тут 50	Val	Trp	Leu	Arg	<b>Asp</b> 55	Ser	Pro	Xaa						
25	(2)	INF	ORMA	rion	FOR	SEQ	IDİ	<b>N</b> O: 1	L69:							
30				(	A) L B) T D) T	ENGT YPE: OPOL	H: 2 ami OGY:	ERIS' 32 a no a lin PTIO	mino cid ear	aci		: 16	9:			
35	Met 1	Ala	Thr	Leu	Trp 5	Gly	Gly	Leu	Leu	Arg 10	Leu	Gly	Ser	Leu	Leu 15	Ser
	Leu	Ser	Cys	Leu 20	Ala	Leu	Ser	Val	Leu 25	Leu	Leu	Ala	His	Суs 30	Gln	Thr
40	Pro	Pro	Arg 35	Ile	Ser	Arg	Met	Ser 40	Asp	Val	Asn	Val	Ser 45	Ala	Leu	Pro
45	Ile	Lys 50	Lys	Asn	Ser	Gly	His 55	Ile	Tyr	Asn	Lys	Asn 60	Ile	Ser	Gln	Lys
	Asp 65		Asp	Cys	Leu	His 70	Val	Val	Glu	Pro	<b>Met</b> 75	Pro	Val	Arg	Gly	Pro 80
50	Asp	Val	Glu	Ala	Tyr 85	Cys	Leu	Arg	Cys	Glu 90	Cys	Lys	Tyr	Glu	G1u 95	Arg
	Ser	Ser	Val	Thr 100	Ile	Lys	Val	Thr	Ile 105	Ile	Ile	Tyr	Leu	Ser 110	Ile	Leu
55	Gly	Leu	Leu 115	Leu	Leu	Tyr	Met	Val 120	Tyr	Leu	Thr	Leu	Val 125	Glu	Pro	Ile
60	Leu	Lys 130	Arg	Arg	Leu	Phe	Gly 135	His	Ala	Gln	Leu	Ile 140	Gln	Ser	Asp	Asp

PCT/US98/04482

					85					90					95	
5	Gly	Leu	Leu	Ile 100	Leu	Ser	Cys	Xaa								
	(2)	INFO	ORMAT	NOI	FOR	SEQ	ID N	ю: 1	.66:							
10				~ (. ()	A) Li B) T D) T	CHAI ENGTI YPE: OPOLA	H: 8 ami: OGY:	l am no ac line	ino a cid ear	acid		1.5				
15				_		E DES										
	Met 1	Ala	Gly	Thr	Met 5	Val	Ile	Val	Val	Val 10	Val	Val	Val	Gly	Glu 15	Val
20	Val	Val	Glu	Ala 20	Glu	Val	Val	Val	Gln 25	Ala	Arg	Glu	Glu	Ala 30	Gly	Glu
	Glu	Glu	Gly 35	Ala	Arg	Ile	Ile	Thr 40	Lys	Gly	Val	Asn	Leu 45	Asn	Ser	Ile
25	Ser	Ser 50	Met	Glu	Val	Ile	Ser 55	Ile	Ile	Ile	Leu	Asp 60	Leu	Asp	Arg	Glu
20	Asp 65	Ile	Thr	Leu	Val	Glu 70	Ala	Thr	Glu	Pro	Тут 75	Ile	Leu	Leu	Glu	Leu 80
30	Lys															
35	(2)	INFO	OR <b>MA</b>	rion	FOR	SEQ	ID I	No: 1	167:							
40				- (	A) L B) T D) T	CHAI ENGT YPE: YOPOL E DE	H: 9 ami OGY:	3 am no a lin	ino cid ear	acid		: 16	7:			
45	Met 1	Ser	Phe	Ser	Phe 5	Ile	Ile	Phe	Leu	Leu 10	Leu	Val	Cys	Gln	Glu 15	Ile
	Thr	Phe	Cys	Met 20	Ser	Tyr	Gly	Asp	Ala 25	Val	Asn	Cys	Phe	Ser 30	Glu	Cys
50	Phe	Ser	Asn 35	Leu	Gln	Thr	Ile	туr 40	Ile	Ser	Суз	Leu	Gln 45	His	Ala	Val
55	Cys	Lys 50		Ser	Val	Ile	<b>T</b> rp 55	Ser	Ile	Gln	Leu	Phe 60	Val	Arg	Ala	Leu
55	Pro 65		Ser	Lys	Cys	Ala 70	Glu	Leu	Ser	Ile	Asp 75	Gly	Ile	Phe	Arg	Ser 80
60	Phe	His	Glu	Asn	Trp 85	Lys	Cys	Ser	Trp	Val 90	Ala	Pro	Thr			

			(xi)	(	D) TY JENCI	OPOL	OGY:	lin	ear	EQ II	O <b>N</b> O	: 16	4 :			
5	Met 1	Gly	Phe	Gly	Ala 5	Thr	Leu	Ala	Val	Gly 10	Leu	Thr	Ile	Phe	Val 15	Leu
10	Ser	Val	Val	Thr 20	Ile	Ile	Ile	Cys	Phe 25	Thr	Cys	Ser	Cys	Суs 30	Cys	Leu
10	Tyr	Lys	Thr 35	Cys	Arg	Arg	Pro	<b>Ar</b> g <b>4</b> 0	Pro	Val	Val	Thr	Thr 45	Thr	Thr	Ser
15	Thr	Thr 50	Val	Val	His	Ala	Pro 55	Tyr	Pro	Gln	Pro	Pro 60	Ser	Val	Pro	Pro
	Ser 65	Tyr	Pro	Gly	Pro	Ser 70	Tyr	Gln	Gly	Tyr	His 75	Thr	Met	Pro	Pro	Gln 80
20	Pro	Gly	Met	Pro	Ala 85	Ala	Pro	Tyr	Pro	Met 90	Gln	Tyr	Pro	Pro	Pro 95	Tyr
25	Pro	Ala	Gln	Pro 100	Met	Gly	Pro	Pro	Ala 105	Tyr	His	Glu	Thr	<b>Le</b> u 110	Ala	Gly
<i>2.3</i>	Glu	Gln	Pro 115	Arg	Pro	Thr	Pro	Pro 120	Ala	Ser	Leu	Leu	Thr 125	Thr	Arg	Pro
30	Thr	Trp 130		Pro	Arg	Arg	<b>A</b> rg 135	Pro	Ser	Glu	His	Ser 140	Leu	Ala	Ser	Leu
	Ala 145	Ala	Thr	Trp	Leu	Cys 150	Cys	Val	Cys	Ala	<b>Xaa</b> 155					
35																
	(2)	INF	ORMA'		FOR ENCE											
40			(+)	~ (		ENGI	H: 1	.04 a	mino	aci	.ds					
			(xi)		(D) I					EQ I	D NO	: 16	5:			
45	Met 1		Ile	Leu	Val		Ile	Ala	Phe	Phe 10	Ile	Pro	Leu	Gln	Lys 15	Thr
50	Ile	Gly	Lys	Ile 20		Thr	Cys	Leu	Glu 25	Leu	Arg	Ser	Ala	Ala 30	Leu	Gln
50	Ser	Thr	Gln 35		Gln	Glu	Glu	Phe 40		Leu	Glu	Asp	Leu 45		Lys	Leu
55	Glu	Pro 50		Leu	Lys	Asn	Ile 55		Thr	Tyr	Asn	Lys 60		Phe	Pro	Phe
	Asp 65		. Gln	Pro	Val	Pro		Arg	Arg	Ile	<b>Le</b> u 75		Pro	Gly	Glu	Glu 80
60	Glu	. Asr	Leu	Glu	. Phe	Glu	Glu	Asp	Glu	Glu	Glu	Gly	Gly	Ala	Gly	Ala

Asp Xaa

5

(2) INFORMATION FOR SEQ ID NO: 162:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 72 amino acids

(B) TYPE: amino acid (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 162:

15 Met Glu Ala Val Phe Thr Val Phe Phe Phe Val Val Leu Phe Leu

Lys Asn Thr Glu Gly Ala Lys Leu Phe Cys Thr Leu Tyr Pro Ala Ala

20

Ser Ser Gly Gln Ser Gln Gly Pro Gly Leu Glu Lys Pro Asp Ser Gln

Glu Cys Ile Ile Asp Pro Cys Ser Tyr Pro Ile Ala Leu Gly Ala Gly 25

Thr Glu Pro Gly Cys Lys Ile Xaa

30

35

- (2) INFORMATION FOR SEQ ID NO: 163:
  - (i) SEQUENCE CHARACTERISTICS:
    - (A) LENGTH: 67 amino acids
    - (B) TYPE: amino acid
    - (D) TOPOLOGY: linear
  - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 163:

40 Met Trp Phe Tyr Phe Leu Ser Val Ser Phe Pro Leu Leu Pro Val Xaa 10

Ala Pro Xaa Pro Pro Pro Ala Pro Thr Thr Leu Cys Leu Leu Leu Phe

45

Leu Gly Xaa Leu Tyr Asn Ser Thr Cys Ile His Cys Val His Thr Thr

Ser Xaa Thr Gln Asn Pro Thr Ala Asn Thr Leu Lys Lys Lys Lys 50 50 55

Asn Trp Gly 65

55

- (2) INFORMATION FOR SEQ ID NO: 164:
- (i) SEQUENCE CHARACTERISTICS:

60 (A) LENGTH: 155 amino acids

	Glu	Pro 50		la S	Ser	Pro	Pro	Glu 55	Thr	Thr	Thr	Thr	Ala 60	Gln	Glu '	Thr	Ser
5	Ala 65	Ala	ı Al	la V	/al	Gln	Gly 70	Thr	Ala	Lys	Val	Thr 75	Ser	Ser	Arg	Gln	Glu 80
	Leu	Asr	ı Pı	ro I	Leu	Lys 85	Ser	Ile	Val	Glu	Lys 90	Ser	Ile	Leu	Leu	Thr 95	Glu
10	Gln	Ala	a Le		Ala 100	Lys	Ala	Gly	Lys	Gly 105	Met	His	Gly	Gly	Val 110	Pro	Gly
15	Gly	Lys		ln 1 15	Phe	Ile	Glu	Asn	Gly 120	Ser	Glu	Phe	Ala	Gln 125	Lys	Leu	Leu
13	Lys	Lys 130		he :	Ser	Leu	Leu	Lys 135	Pro	Trp	Ala	Xaa					
20	(2)	IN							NO:								
25					(. (	A) I B) I D) I	ENGT YPE : YOPOI	H: 1 ami OGY:	ERIS 178 a ino a : lir :PTIC	mino cid ear	aci		: 16	1:			
30	Met		u G	ly	Cys	Gly 5		Pro	Ala	Leu	Gly 10		Leu	Leu	Leu	Leu 15	Gln
	Gly	y Se	r A	la	Asp 20	Gly	Asn	Gly	' Ile	Gln 25		Phe	Phe	Tyr	Pro 30	Trp	Ser
35	Cys	s Gl	u G	31y 35	Asp	Ile	Trp	Asp	Arg 40		Ser	Суз	Gly	Gly 45	Gln	Ala	Ala
40	Ile		p S	Ser	Pro	Asr	ı Lev	Cys 55		Arg	Leu	Arg	Cys 60		Tyr	Arg	Asn
40	G1; 6		1 (	Суз	Tyr	His	Glr 70		g Pro	Asp	Glu	75		Arg	Arg	Lys	His 80
45	Me	t Tr	.p /	Ala	Leu	Va.] 85		Th:	c Cys	Ser	Gly 90		Leu	. Leu	Leu	Ser 95	Cys
	Se	r I	le (	Cys	Leu 100		e Tr	Tr	Ala c	105		y Arg	j Asp	Val	Leu 110	His	Met
50	Pr	o G		Phe 115	Leu	a Ala	a Gly	/ Pro	2 Cys		Met	. Ser	Lys	Ser 125		Ser	: Leu
55	Le		er : 30	Lys	His	s Ar	g Gly	7 Th:		s Ly:	s Thi	r Pro	Ser 140		Gly	Ser	· Val
55	Pr 14		al .	Ala	Leu	ı Se	r Ly:		u Se:	r Arg	g Ası	2 Va 15		ı Gly	/ Gly	Thi	Glu 160
60	Gl	уG	lu	Gly	Th	c Gl 16		u Gl	y Gl	u Gl	u Th:		u Gl	y Glu	ı Glu	17!	ı Glu

	Leu	Leu	Ala	Pro 20	Ile	Leu	Pro	Asp	Glu 25	Gln	Ser	Glu	Val	Phe 30	Glu	Ala
5	Leu	Ser	Asn 35	Leu	Pro	Lys	Val	Thr 40	Trp	Leu	Gly	Ser	Asn 45	Ser	Pro	Ser
10	Ser	Glu 50	Met	Pro	Glu	Pro	Gly 55	Arg	Phe	Val	Ile	Val 60	His	His	Gln	Leu
10	Ser 65	Ala	Ala	Ser	His	5er 70	Ser	Ser	Gln	Leu	Ala 75					
15	(2)	INF	ORMA!	rion	FOR	SEQ	ID I	NO: 1	159:							
			(i)	SEQUI												
20				(	B) T	YPE:	ami	1 am no a lin	cid	acid	s					
			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 15	9:			
25	Met 1	Trp	Pro	Pro	Leu 5	Leu	Leu	Leu	Leu	Leu 10	Leu	Leu	Pro	Ala	Ala 15	Pro
	Val	Pro	Thr	Ala 20	Lys	Ala	Ala	Pro	His 25	Pro	Asp	Ala	Asn	Thr 30	Gln	Glu
30	Gly	Leu	Gln 35	Asn	Leu	Leu	Gln	Gly 40	Val	Gly	Ala	Gly	Gly 45	Asp	Gly	Glu
35	Leu	Arg 50		Asp	Ser	His	Leu 55	Ala	Pro	Gly	Ser	Gly 60	Cys	Ile	Asp	Gly
	Ala 65	Val	Val	Ala	Thr	<b>Arg</b> 70	Pro	Glu	Ser	Arg	Gly 75	Gly	Arg	Pro	Ala	Val 80
40	Pro															
45	(2)	INF	orma	TION	FOR	SEQ	ID :	NO:	160:							
			(i)	(	A) I B) T	ENGI YPE :	H: 1 ami	.39 a	mino cid		ds					
50			(xi)	SEQ				lin PTIO		EQ I	D NO	: 16	0:			
	Met 1	_	Phe	Thr	Thr 5	Leu	Leu	Phe	Leu	Ala 10	Ala	Val	Ala	Gly	Ala 15	Leu
55	Val	Tyr	Ala	Glu 20	Asp	Ala	Ser	Ser	Asp 25	Ser	Thr	Gly	Ala	Asp 30	Pro	Ala
	Gln	Glu		Gly	Thr	Ser	Lys		Asn	Glu	Glu	Ile		Gly	Pro	Ala
60			35					40					45			

	Trp 65	Ala	Lys	Lys	Thr	Lys 70	Trp	Met	Asn	Met	Lys 75	Ala	Val	Phe	Gly	His 80
5	Pro	Phe	Ser	Leu	Gly 85	Trp	Ala	Ser	Pro	Phe 90	Ala	Thr	Pro	Asp	Gln 95	Gly
10	Lys	Ala	Asp	Pro 100	Tyr	Gln	Tyr	Val	Val 105	Xaa						
	(2)	INFO	ORMA!	rion	FOR	SEQ	ID I	NO: 1	L56:							
15				~ (	A) L B) T D) T	ENGT YPE: OPOL	H: 2 ami OGY:	ERIST 9 am no a lin PTIO	ino cid ear	acid		: 15	6:			
20	Met 1	Tyr	Thr	Asn	His 5	Phe	Asn	Leu	Tyr	Leu 10	Lys	Tyr	Ile	Leu	Leu 15	Ile
25	Ile	Leu	Ile	Leu 20	Asn	Met	Thr	Asn	Ser 25	Ser	Ser	Arg	Tyr			
30	(2)	INF		SEQU )	ENCE A) L	CHAI ENGT YPE:	RACT H: 5	NO: 1 ERIST 3 am no a	rics ino		s					
				- 1	יתי וכד	OPOT.			ear							
35			(xi)		D) T UENC					EQ I	D NO	: 15	7:			
35	Met 1	Asn		SEQ	UENC	E DE	SCRI	PTIO	N: S					Phe	Thr 15	Phe
35 40	1		Glu	SEQ	Leu 5	E DE Leu	SCRI Phe	PTIO	N: S	Phe 10	Phe	Phe	Phe		15	Phe Leu
	1 Cys Gln	Ile Asn	Glu Glu Ile 35	SEQ Leu Thr 20 Tyr	Leu 5 Asn Met	E DE Leu Ser Glu	SCRI Phe Phe Met	PTIO Phe Lys	Phe Gln 25	Phe 10 Thr	Phe Tyr Pro	Phe	Phe Tyr Asn	Tyr 30 Pro	15 Phe	Leu
40	1 Cys Gln	Ile Asn	Glu Glu Ile	SEQ Leu Thr 20 Tyr	Leu 5 Asn Met	E DE Leu Ser Glu	SCRI Phe Phe Met	PTIOI Phe Lys Leu	Phe Gln 25	Phe 10 Thr	Phe Tyr Pro	Phe Tyr Val	Phe Tyr Asn	Tyr 30 Pro	15 Phe	Leu
40	Cys Gln Pro	Ile Asn Pro 50	Glu Glu Ile 35	SEQ Leu Thr 20 Tyr	Leu 5 Asn Met Xaa	E DE Leu Ser Glu	SCRI Phe Phe Met	PTIOI Phe Lys Leu	N: S: Phe Gln 25 Pro	Phe 10 Thr	Phe Tyr Pro	Phe Tyr Val	Phe Tyr Asn	Tyr 30 Pro	15 Phe	Leu
40 45	Cys Gln Pro	Ile Asn Pro 50	Glu  Glu  Ile 35  Trp	SEQU Leu Thr 20 Tyr Gly FION ((((((((((((((((((((((((((((((((((((	Leu 5 Asn Met Xaa FOR ENCE ENCE ENCE EN LB) T	E DE Leu Ser Glu SEQ CHASENGT YPE:	Phe Phe ID   RACTH: 7 ami OGY:	PTIOI Phe Lys Leu 40 VO: 1 EERIS' 5 am no a	N: S. Phe Gln 25 Pro	Phe 10 Thr Pro	Tyr Pro	Phe Tyr Val	Phe Tyr Asn 45	Tyr 30 Pro	15 Phe	Leu

```
(A) LENGTH: 42 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 153:
 5
     Met Leu Leu Asn Gln His Phe Lys Ile Phe Gly Ser Leu Ile His Met
      Asn Leu Leu Phe Ala Leu Ile Ser Leu Gly Ser Ser Asn Leu Ser Gly
10
      Val Gln Phe Cys Cys Glu Thr Val Gln Xaa
15
      (2) INFORMATION FOR SEQ ID NO: 154:
             (i) SEQUENCE CHARACTERISTICS:
20
                    (A) LENGTH: 72 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 154:
25
      Met Leu Ser Leu Ser Phe Leu Leu Arg Arg Val Leu Phe Leu Gly Phe
     Leu Gln Ala Ser Val Gly Glu Lys Lys Ser Leu Arg Xaa Leu Asn Tyr
30
      Ser Val Pro His Pro Met Leu Xaa His Pro Pro Pro Asp Thr Ala Gln
      Val Pro Pro Arg Leu Glu Arg Ser Leu Leu Gln Glu Leu Trp Thr
35
      Pro Gly Pro His His Ser Asn Ile
40
      (2) INFORMATION FOR SEQ ID NO: 155:
             (i) SEQUENCE CHARACTERISTICS:
45
                    (A) LENGTH: 106 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 155:
      Met Gln Pro Leu Asn Phe Ser Ser Thr Glu Cys Ser Ser Phe Ser Pro
50
                                          10
      Pro Thr Thr Val Ile Leu Leu Ile Leu Leu Cys Phe Glu Gly Leu Leu
                                       25
                   20
55
      Phe Leu Ile Phe Thr Ser Val Met Phe Gly Thr Gln Val His Ser Ile
                                  40
      Cys Thr Asp Glu Thr Gly Ile Glu Gln Leu Lys Lys Glu Glu Arg Arg
60
                              55
```

. 291

					85					90					95	
5	Leu	Phe	Arg	Gly 100	Phe	Phe	Pro	Val	Val 105	Val	Gly	Phe	Ile	Arg 110	Arg	Val
J	Pro	Val	Leu 115	Gly	Ser	Leu	Leu	Asn 120	Leu	Pro	Gly	Ile	Arg 125	Ser	Phe	Val
10	Asp	Lys 130	Val	Gly	Glu	Ser	Asn 135	Asn	Met	Val	Xaa					
15	(2)	INF	ORMA'	SEQU (	ENCE A) L	CHA ENGT	RACT	ERIS 8 am	TICS ino		s					
20			(xi)	-	D) T	OPOL	OGY:	lin	ear	EQ I	d No	: 15	1:			
	Met 1		Ala	Pro	Gln 5	Thr	Arg	Ile	Ser	Arg 10	Ala	Leu	Val	Leu	Leu 15	Phe
25	Leu	Ala	Pro	Thr 20	Leu	Leu	Ser	Leu	Gly 25	His	Gly	Ile	His	Pro 30	Ile	Asn
20	Thr	Ala	Thr 35	Pro	Tyr	Хаа	Thr	Asp 40		Ala	Lys	Leu	Ala 45	Pro	Gly	Thr
30	Lys	Glu 50	Leu	Asn	His	Asp	Gln 55	Ser	Val	Thr						
35	(2)	INF	ORMA													
40				(	(A) I (B) T (D) T	ENGT YPE: OPOL	H: 4 ami OGY:	18 an .no a lir	nino ncid near	acid		: 15	2:			
45	Met 1		Arg	Lys	Leu 5	His	Lys	Ile	Ile	Val 10	Phe	Ser	Pro	Arg	Val 15	Ile
	Val	Leu	Leu	Asn 20		Phe	Phe	Phe	Ile 25	Lys	Ala	Lys	Phe	Val 30	Leu	Tyr
50	Ile	Phe	Val		His	Val	Leu	Asp 40		Ser	Ile	Ser	Tyr 45	Pro	Val	Xaa
55																
	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	153:							

(i) SEQUENCE CHARACTERISTICS:

	Met 1	Glu	Pro	Leu	Arg 5	Leu	Leu	Ile	Leu	Leu 10	Phe	Val	Thr	Glu	Leu 15	Ser
5	Gly	Ala	His	Asn 20	Thr	Thr	Val	Phe	Gln 25	Gly	Val	Ala	Gly	Gln 30	Ser	Leu
10	Gln	Val	Ser 35	Cys	Pro	Tyr	Asp	Ser 40	Met	Lys	His	Trp	Gly <b>4</b> 5	Arg	Arg	Lys
10	Ala	Trp 50		Arg	Gln	Leu	Gly 55	Glu	Lys	Gly	Pro	Суs 60	Gln	Arg	Val	Val
15	Ser 65		His	Asn	Leu	Trp 70	Leu	Leu	Ser	Phe	<b>Leu</b> 75	Arg	Arg	Trp	Asn	Gly 80
	Ser	Thr	Ala	Ile	Thr 85	Asp	Asp	Thr	Leu	Gly 90	Gly	Thr	Leu	Thr	11e 95	Thr
20	Leu	Arg	Asn	Leu 100		Pro	His	Asp	Ala 105	Gly	Leu	Tyr	Gln	Cys 110	Gln	Ser
25	Leu	His	Gly 115	Ser	Glu	Ala	Asp	Thr 120	Leu	Arg	Lys	Val	Leu 125	Val	Glu	Val
23	Leu	Ala 130		Pro	Leu	Asp	His 135	Arg	Asp	Ala	Gly	Asp 140	Leu	Trp	Phe	Pro
30	Gly 145		ı Ser	Glu	Ser	Phe 150		Asp	Ala	His	Val 155		His	Ser	Ile	Ser 160
	Arg	g Ser	r Ser	Ser	165											
35								<b>110</b> .	150.							
40	(2)	) IND	(i)	ATION SEQU	JENCI (A) (B) (D)	E CHI LEING TYPE TOPO	ARACT TH: 1 : am: LOGY	TERIS 139 a ino a : li	STICS amin acid near	S: o ac:		o: 15	5 <b>0</b> :			
45		t Il 1			ı Thi						e Gly			/ Leu	Thi	Gly
	Ph	e Gl	y Va	1 Ph		e Lei	ı Phe	e Phe	e Gly 25		: Ile	e Leu	ı Phe	e Phe		Lys
50	Al	a Le	u Le		a Il	e Gly	y Ası	ı Va.		ı Phe	e Vai	l Alá	a Gly		ı Alá	a Phe
55	Va		.e G1 60	y Le	u Gl	u Ar	g <b>T</b> hi 5!		e Ar	g Ph	e Pho	e Phe 60		n Lys	s Hi	s Lys
		t Ly 5	rs Al	a Th	r Gl	y Ph		e Le	u Gl	y Gl	y Va 7		e Va	l Va	l Le	u Ile 80
60	Gl	у Тг	p Pr	o Le	u Il	e Gl	у ме	t Il	e Ph	e Gl	u Il	е Ту:	r Gl	y Ph	e Ph	e Leu

				20					25					30		
5	Ala	Pro	Arg 35	Ala	Arg	Phe	Pro	Pro 40	Arg	Pro	Leu	Pro	Arg 45	Pro	His	Pro
5	Ser	Ser 50	Gly	Ser	Cys	Pro	Pro 55	Thr	Lys	Phe	Gln	Суз 60	Arg	Thr	Ser	Gly
10	Leu 65	Cys	Val	Pro	Leu	Thr 70	Trp	Arg	Cys	Asp	Arg 75	Thr	Trp	Thr	Ala	Ala 80
	Met	Ala	Ala	Met	Arg 85	Arg	Ser	Ala	Gly	Leu 90	Ser	His	Val	Pro	Arg 95	Lys
15	Gly	Asn	Ala	Ніs 100	Arg	Pro	Leu	Ala	Ser 105	Pro	Ala	Pro	Ala	Pro 110	Ala	Ser
20	Val	Thr	Ala 115	Leu	Gly	Glu	Leu	Thr 120	Arg	Asn	Cys	Ala	Thr 125	Ala	Ala	Ala
20	Trp	Pro 130	Ala	Xaa												
25	(2)	INFO	ORMA!	rion	FOR	SEO	ID I	NO: I	L48:							
	,,				ENCE											
30				- (	A) L B) T D) T	ENGT YPE : OPOL	H: 9 ami OGY:	2 am no a lin	ino cid ear	acid						
			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 14	8:			
35	Met 1	Glu	Ala	Thr	Leu 5	Glu	Gln	His	Leu	Glu 10	Asp	Thr	Met	Lys	Asn 15	Pro
	Ser	Ile	Val	Gly 20	Val	Leu	Cys	Thr	Asp 25	Ser	Gln	Gly	Leu	Asn 30	Leu	Gly
40	Cys	Arg	Gly 35	Thr	Leu	Ser	Asp	Glu 40	His	Ala	Gly	Val	Ile 45	Ser	Val	Leu
45	Ala	Gln 50	Gln	Ala	Ala	Lys	Leu 55	Thr	Ser	Asp	Pro	Thr 60	Asp	Ile	Pro	Val
15	Val 65	Cys	Leu	Glu	Ser	Asp 70	Asn	Gly	Aşn	Ile	Met 75	Ile	Gln	Lys	His	Asp 80
50	Gly	Ile	Thr	Val	Ala 85	Val	His	Lys	Met	Ala 90	Ser	Xaa				
55	(2)	INF	ORMA'	rion	FOR	SEQ	ID 1	NO: 1	149:							
55			(i)	(		ENGT	H: 1	65 a	mino	: aci	ds					
					B) T D) T	_										
60			(xi)							EQ I	o No	: 14	9:			

	Asn	Leu	Glu	Asn 100	Leu	Glu	Glu	Lys	Glu 105	Tyr	Phe	Gly	Ile	Val 110	Ser	Val
5	Arg	Ile	Leu 115	Val	His	Glu	Trp	Pro 120	Met	Thr	Ser	Gly	Ser 125	Ser	Leu	Gln
	Leu	Ile 130	Val	Ile	Gln	Glu	Glu 135	Val	Val	Glu	Ile	<b>A</b> sp 140	Gly	Lys	Gln	Val
10	Gln 145	Gln	Lys	Asp	Val	Thr 150	Glu	Ile	Asp	Ile	Leu 155	Val	Lys	Asn	Arg	Gly 160
15	Val	Leu	Arg	His	Ser 165	Asn	Tyr	Thr	Leu	<b>Pro</b> 170	Leu	Glu	Glu	Ser	Met 175	Leu
	Tyr	Ser	Ile	Ser 180	Arg	Asp	Ser	Asp	Ile 185	Leu	Phe	Thr	Leu	Pro 190	Asn	Leu
20	Ser	Lys	Lys 195	Glu	Ser	Val	Ser	Ser 200	Leu	Gln	Thr	Thr	Ser 205	Gln	Tyr	Leu
	Ile	<b>Ar</b> g 210	Asn	Val	Glu	Thr	Thr 215	Val	Asp	Glu	Asp	Val 220	Leu	Pro	Gly	Gln
25	Val 225	Thr														
30	(2)	INF	OR <b>M</b> A	TION	FOR	SEQ	ID I	NO:	146:							
			(i)		(A) I		H: 4	5 am	ino		ls					
35			(xi)		(D) I	OPOL	OGY:	lin	ear	EQ I	D NO	: 14	6:			
40	Met 1	Gly	Met	Gly	Ala 5	Phe	Gln	Ala	Phe	Phe 10	Trp	Val	Ile	Leu	Thr 15	Val
	Ser	Asn	Val	Cys 20		Leu	Phe	Lys	Met 25	Ser	Leu	Phe	Phe	Leu 30	Leu	Thr
45	Leu	Ile	Ser 35	Lys	Leu	His	Gly	Asp 40		Glu	Val	Cys	Xaa 45			
50	(2)	INF	ORMA	TION	FOR	SEQ	ID	NO:	147:							
			(i)		(A) I (B) 1	ENGT	H: 1	i32 a	mino cid		.ds					
55			(xi)	SEC		OPOI				EQ I	D NC	: 14	7:			
	Met 1		Gly	Gly	Trp 5		Ala	Gln	Val	Gly 10		Trp	Arg	Thr	Gly 15	Ala
60		Cla	r T.ear	Δla	Leu	Len	Leu	Leu	Leu	Glv	Leu	Glv	Leu	Gly	Leu	Glu

					325					330					335	
5	Leu	Ile	Leu	Ser 340	Leu	Asp	Tyr	Asn	Leu 345	His	Gly	Ala	Phe	Gln 350	Gln	Leu
	Gln	Leu	Leu 355	Gly	Arg	Phe	Cys	Gln 360	Glu	Gln	Gly	Ile	Pro 365	Phe	Pro	Pro
10	Ile	Ser 370	Pro	Ser	Pro	Glu	Glu 375	Gln	Leu	Gln	Pro	Arg 380	Glu	Cys	His	Thr
	Phe 385	Ser	Asp	Pro	Thr	Cys 390	Pro	Gly	Ala	Pro	Ala 395	Val	Leu	His	Phe	Pro 400
15	Leu	Val	Ser	Asp	<b>Ser 405</b>	Phe	Arg	Glu	Tyr	Ser 410	Ala	Pro	Gly	Val	Arg 415	Arg
20	Thr	Pro	Glu	Glu 420	Ala	Ala	Ala	Gly	Glu 425	Val	Asn	Leu	Ser	Ser 430	Ser	Asp
	Ser	Pro	Tyr 435	His	Tyr	Thr	Lys	Val 440	Thr	Tyr	Ser	Gln	Glu 445	Asp	Val	Asp
25	Lys	<b>Leu</b> <b>4</b> 50	Leu	His	Leu	Thr	His <b>4</b> 55	Tyr	Asn	Val	Суз	Asn 460	Asn	Gln	Glu	Gln
	Leu 465	Leu	Glu	Ala	Leu	Arg 470	Gln	Ala	Val	Gln	Arg 475	Arg	Arg	Gln	Arg	Arg 480
30	Pro	His	Xaa													
35	(2)	INF	ORMA!	rion	FOR	SEQ	ID 1	<b>N</b> O: 1	L <b>4</b> 5:							
40			(i)	(	ENCE A) L B) T D) T	ENGT YPE :	H: 2 ami	26 a no a	mino cid		ds					
			(xi)	SEQ	UENC	E DE	SCRI:	PTIO	N: SI	EQ I	D NO	: 14	5 :			
45	Met 1	Glu	Gly	Ala	Pro 5	Pro	Gly	Ser	Leu	Ala 10	Leu	Arg	Leu	Leu	Leu 15	Phe
	Val	Ala	Leu	Pro 20	Ala	Ser	Gly	Trp	Leu 25	Thr	Thr	Gly	Ala	Pro 30	Glu	Pro
50	Pro	Pro	Leu 35	Ser	Gly	Ala	Pro	Gln 40	Asp	Gly	Ile	Arg	Ile 45	Asn	Val	Thr
	Thr	<b>Leu</b> 50	Lys	Asp	Asp	Gly	Asp 55	Ile	Ser	Lys	Gln	Gln 60	Val	Val	Leu	Asn
<b>5</b> 5	Ile 65	Thr	Tyr	Glu	Ser	Gly 70	Gln	Val	Tyr	Val	Asn 75	Asp	Leu	Pro	Val	Asn 80
60	Ser	Gly	Val	Thr	Arg 85	Ile	Ser	Cys	Gln	Thr 90	Leu	Ile	Val	Lys	Asn 95	Glu

	1				5					10					15	
5	Leu	Ala	Gly	Leu 20	Lys	Glu	Leu	Gly	Leu 25	Leu	Asp	Cys	Xaa	Ser 30	Tyr	Ile
3	Thr	Gly	Ala 35	Ser	Gly	Ser	Thr	Trp 40	Ala	Leu	Ala	Asn	Leu 45	Tyr	Lys	Asp
10	Pro	Glu 50	Trp	Ser	Gln	Lys	Asp 55	Leu	Ala	Gly	Pro	Thr 60	Glu	Leu	Leu	Lys
	Thr 65	Gln	Val	Thr	Lys	Asn 70	Lys	Leu	Gly	Val	Leu 75	Ala	Pro	Ser	Gln	Leu 80
15	Gln	Arg	Tyr	Arg	Gln 85	Glu	Leu	Ala	Glu	Arg 90	Ala	Arg	Leu	Gly	Tyr 95	Pro
20	Ser	Суз	Phe	Thr 100	Asn	Leu	Trp	Ala	Leu 105	Ile	Asn	Glu	Ala	Leu 110	Leu	His
20	Asp	Glu	Pro 115	His	Asp	His	Lys	Leu 120	Ser	Asp	Gln	Arg	Glu 125	Ala	Leu	Ser
25	His	Gly 130		Asn	Pro	Leu	Pro 135	Ile	Tyr	Cys	Ala	Leu 140	Asn	Thr	Lys	Gly
	Gln <b>14</b> 5	Ser	Leu	Thr	Thr	Phe 150	Glu	Phe	Gly	Glu	Trp 155	Cys	Glu	Phe	Ser	Pro 160
30	Tyr	Glu	Val	Gly	Phe 165	Pro	Lys	Tyr	Gly	Ala 170	Phe	Ile	Pro	Ser	Glu 175	Leu
35	Phe	Gly	Ser	Glu 180	Phe	Phe	Met	Gly	Gln 185	Leu	Met	Lys	Arg	Leu 190	Pro	Glu
	Ser	Arg	Ile 195	_	Phe	Leu	Glu	Gly 200		Trp	Ser	Asn	Leu 205	Tyr	Ala	Ala
40	Asn	Leu 210		Asp	Ser	Leu	Туг 215	Trp	Ala	Ser	Glu	Pro 220	Ser	Gln	Phe	Trp
	Asp 225	_	Trp	Val	Arg	Asn 230		Ala	Asn	Leu	Asp 235	Lys	Glu	Gln	Val	Pro 240
45	Leu	Leu	Lys	Ile	Glu 245		Pro	Pro	Ser	Thr 250		Gly	Arg	Ile	Ala 255	Glu
50	Phe	Phe	Thr	Asp 260	Leu	Leu	Thr	Trp	Arg 265		Leu	Ala	Gln	Ala 270	Thr	His
50	Asn	Phe	Leu 275		Gly	Leu	His	Phe 280		Lys	Asp	Tyr	Phe 285	Gln	His	Pro
55	His	Phe 290		Thr	Trp	Lys	Ala 295		Thr	Leu	. Asp	Gly 300		Pro	Asn	Glr
	Leu 305		Pro	Ser	Glu	Pro 310		Leu	Cys	Leu	Leu 315		Val	Gly	Tyr	Let 320
60	Ile	Asr	Thr	Ser	Cys	Leu	Pro	Leu	Leu	Gln	Pro	Thr	Arg	Asp	Val	Asp

25

20

285

30

Tyr Pro Lys Phe Tyr Gln Thr Leu His Arg Gln 35 5 (2) INFORMATION FOR SEQ ID NO: 142: (i) SEQUENCE CHARACTERISTICS: 10 (A) LENGTH: 41 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 142: 15 Met Val His Val Leu Glu Ile Leu Leu Phe Ile Thr Met Gln Ala Val Ser Phe Pro Phe Gln Thr Gln Ile Asp Thr Cys Asn Thr Gln Asp Pro 20 25 Ala Glu Arg Gln Pro Ala Ser Ile Val 35 25 (2) INFORMATION FOR SEQ ID NO: 143: (i) SEQUENCE CHARACTERISTICS: 30 (A) LENGTH: 70 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 143: 35 Met Gly Ser Cys Ser Lys Asn Arg Ser Phe Phe Trp Met Thr Gly Leu Leu Val Phe Ile Ser Leu Leu Leu Ser Glu Trp Gln Gly Pro Trp Glu 40 Gly Arg Ala Ile Gly Glu Gly Trp Ala Ser Trp Ala Leu Thr Asn Gly 40 Trp Ala Val Gln Leu Leu Met Ser Leu Gly Asn Asn Thr Glu Lys His 45 50 Ser Val Met Ile Tyr Glu 65 50 (2) INFORMATION FOR SEQ ID NO: 144: (i) SEQUENCE CHARACTERISTICS: 55 (A) LENGTH: 483 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 144: 60 Met Ala Thr Gly Gly Gly Ile Arg Ala Met Thr Ser Leu Tyr Gly Gln

	Val 145	Val	Ser	Tyr	Pro	Phe 150	Asp	Met	Thr	Arg	Thr 155	Pro	Trp	Ala	Ala	Arg 160
5	Glu	Leu	Thr	Pro	Thr 165	Pro	Asp	Asp	Ala	Val 170	Phe	Arg	Trp	Leu	Ser 175	Thr
10	Val	Tyr	Ala	Gly 180	Ser	Asn	Leu	Ala	Met 185	Gln	Asp	Thr	Ser	Arg 190	Arg	Pro
	Cys	His	Ser 195	Gln	Asp	Phe	Ser	Val 200	His	Gly	Asn	Ile	11e 205	Asn	Gly	Ala
15	Asp	Trp 210	His	Thr	Val	Pro	Gly 215	Ser	Met	Asn	Asp	Phe 220	Ser	Tyr	Leu	His
	Thr 225	Asn	Суз	Phe	Glu	Val 230	Thr	Val	Glu	Leu	Ser 235	Cys	Asp	Lys	Phe	Pro 240
20	His	Glu	Asn	Glu	Leu 245	Pro	Gln	Glu	Trp	Glu 250	Asn	Asn	Lys	Asp	Ala 255	Leu
25	Leu	Thr	Tyr	Leu 260	Glu	Gln	Val	Arg	Met 265	Gly	Ile	Ala	Gly	Val 270	Val	Arg
	Ąsp	Lys	Asp 275	Thr	Glu	Leu	Gly	11e 280	Ala	Asp	Ala	Val	Ile 285	Ala	Val	Asp
30	Gly	Ile 290	Asn	His	Asp	Val	Thr 295	Thr	Ala	Trp	Gly	Gly 300	Asp	Tyr	Trp	Arg
	<b>Leu</b> 305	Leu	Thr	Pro	Gly	Asp 310	Tyr	Met	Val	Thr	Ala 315	Ser	Ala	Glu	Gly	Tyr 320
35	His	Ser	Val	Thr	Arg 325	Asn	Cys	Arg	Val	Thr 330	Phe	Glu	Glu	Gly	Pro 335	Phe
40	Pro	Cys	Asn	Phe 340	Val	Leu	Thr	Lys	Thr 345	Pro	Lys	Gln	Arg	Leu 350	Arg	Glu
	Leu	Leu	Ala 355	Ala	Gly	Ala	Lys	Val 360	Pro	Pro	Asp	Leu	Arg 365	Arg	Arg	Leu
45	Glu	<b>Arg</b> 370	Leu	Arg	Gly	Gln	Lys 375	Asp	Xaa							
	(2)	TNFO	ORMA	MOTT	FOR	SEQ	ID I	wo: i	141:							
50				SEQU	ENCE	CHA!	RACT.	ERI <i>S</i>	rics		e					
55			(a. 2.)	(	в) т D) т	YPE: OPOL	ami OGY:	no a lin	cid ear			. 14	1 .			
JJ		Ile		_	Ile	E DE: Leu				Ala				Leu		Ser
60	1 Leu	His	Val	Val	5 His	Asn	Phe	Gln	Ile	10 Leu	Asp	Leu	Ser	Gly	15 Thr	Ser

	(2)	INF	ORMA'	NOI'I	FOR	SEQ	ID I	<b>v</b> O: .	139:							
5			(i) :	(	A) L B) T D) T	ENGT YPE : OPOL	H: 7 ami OGY:	3 am no a lin	ino cid ear	: acid EQ I		: 13	9:			
10	Met 1	Gly	Trp	Leu	Phe 5	Leu	Lys	Val	Leu	Leu 10	Ala	Gly	Val	Ser	Phe 15	Ser
15	Gly	Phe	Leu	Туг 20	Pro	Leu	Val	Asp	Phe 25	Сув	Ile	Ser	Gly	Lys 30	Thr	Arg
13	Gly	Gln	Lys 35	Pro	Asn	Phe	Val	Ile 40	Ile	Leu	Ala	Asp	Asp 45	Met	Gly	Trp
20	Gly	Asp 50	Trp	Gly	Ala	Asn	Trp 55	Ala	Glu	Thr	Lys	Asp 60	Thr	Ala	Asn	Leu
	Asp 65	Lys	Met	Ala	Ser	Glu 70	Gly	Met	Xaa							
25																
	(2)	INF	ORMA!	NOIT	FOR	SEQ	ID 1	NO: 3	L <b>4</b> 0:							
30				(	A) L B) T D) T	YPE: OPOL	H: 3 ami OGY:	77 a no a lin	mino cid ear	: aci EQ II		: 14	0:		•	
35	Met 1	His	Gly	Asn	Glu 5	Ala	Leu	Gly	Arg	Glu 10	Leu	Leu	Leu	Leu	Leu 15	Met
40	Gln	Phe	Leu	Cys 20	His	Glu	Phe	Leu	Arg 25	Gly	Asn	Pro	Arg	Val 30	Thr	Arg
	Leu	Leu	Ser 35	Glu	Met	Arg	Ile	His 40	Leu	Leu	Pro	Ser	Met 45	Asn	Pro	Asp
45	Gly	Туr 50	Glu	Ile	Ala	Tyr	His 55	Arg	Gly	Ser	Glu	Leu 60	Val	Gly	Trp	Ala
	Glu 65	Gly	Arg	Trp	Asn	Asn 70	Gln	Ser	Ile	Asp	Leu 75	Asn	His	Asn	Phe	Ala 80
50	Asp	Leu	Asn	Thr	Pro 85	Leu	Trp	Glu	Ala	Gln 90	Asp	Asp	Gly	Lys	Val 95	Pro
55	His	Ile	Val	Pro 100	Asn	His	His	Leu	Pro 105	Leu	Pro	Thr	Tyr	Tyr 110	Thr	Leu
	Pro	Asn	Ala 115	Thr	Val	Ala	Pro	Glu 120	Thr	Arg	Ala	Val	Ile 125	Lys	Trp	Met
60	Lys	Arg 130	Ile	Pro	Phe	Val	Leu 135	Ser	Ala	Asn	Leu	His 140	Gly	Gly	Glu	Leu

PCT/US98/04482 WO 98/39446

282

	Tyr	Phe 50	Leu	Ile	Ala	Ala	Gly 55	Val	Val	Val	Phe	Ala 60	Leu	Gly	Phe	Leu
5	Gly 65	Cys	Tyr	Gly	Ala	Lys 70	Thr	Glu	Ser	Lys	Cys 75	Ala	Leu	Val	Thr	Phe 80
10	Phe	Phe	Ile	Leu	Leu 85	Leu	Ile	Phe	Ile	Ala 90	Glu	Val	Ala	Ala	Ala 95	Val
	Val	Ala	Leu	Val 100	Tyr	Thr	Thr	Met	<b>Ala</b> 105	Glu	His	Phe	Leu	Thr 110	Leu	Leu
15	Val	Val	Pro 115	Ala	Ile	Lys	Lys	Asp 120	Tyr	Gly	Ser	Gln	Glu 125	Asp	Phe	Thr
	Gln	Val 130	Trp	Asn	Thr	Thr	Met 135	Lys	Gly	Leu	Lys	Cys 140	Cys	Gly	Phe	Thr
20	Asn 145	Tyr	Thr	Asp	Phe	Glu 150	Asp	Ser	Pro	Tyr	Phe 155	Lys	Glu	Asn	Ser	Ala 160
25	Phe	Pro	Pro	Phe	Cys 165	Cys	Asn	Asp	Asn	Val 170	Thr	Asn	Thr	Ala	Asn 175	Glu
	Thr	Cys	Thr	Lys 180	Gln	Lys	Ala	His	<b>Asp</b> 185	Gln	Lys	Val	Glu	Gly 190	Cys	Phe
30	Asn	Gln	Leu 195	Leu	Tyr	Asp	Ile	Arg 200	Thr	Asn	Ala	Val	Thr 205	Val	Gly	Gly
	Val	Ala 210	Ala	Gly	Ile	Gly	Gly 215	Leu	Glu	Leu	Ala	Ala 220	Met	Ile	Val	Ser
35	Met 225	Tyr	Leu	Tyr	Cys	Asn 230	Leu	Gln	Xaa							
40	(2)	INF	ORMA'	TION	FOR	SEQ	ID I	NO:	138:							
			(i)	SEQU )				ERIS			s					
45								no a lin								
			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: S	EQ I	D NO	: 13	8:			
50	Met 1	Gly	Ser	Ser	Arg 5	Trp	Ser	Val	Ala	Cys 10	Pro	Thr	Gly	Leu	Gly 15	Val
	Leu	Met	Leu	Gly 20	Leu	Gly	Gly	Asp	His 25	Pro	Pro	Gly	Ser	Gln 30	Val	Asp
55	Pro	Leu	Leu 35	Met	Gly	Xaa	Cys	Val 40	Arg	Pro	Xaa	Leu	Pro 45	Glu	Leu	Thr
	Ala	<b>Xaa</b> 50	_	Arg	Glu	Xaa	Gln 55		Arg	Ser	Ala	Ser 60	Ala			

5	(2)	INF	ORMA	TION	FOR	SEQ	ID:	NO:	136:							
10				(	A) I B) T D) T	ENGT YPE : OPOL	H: 1 ami OGY:	.56 a .no a .lin	mind cid ear	aci		): <b>1</b> 3	6:			
	Met 1	Val	Ile	Glu	Ile 5	Ser	Asn	Lys	Thr	Ser 10	Ser	Ser	Ser	Thr	Cys 15	
15	Leu	Val	Leu	Leu 20	Val	Ser	Phe	Cys	Leu 25	Leu	Leu	Val	Pro	Ala 30		Тут
20	Ser	Ser	Asp 35	Thr	Arg	Gly	Ser	Leu 40	Pro	Ala	Glu	His	Gly 45	Val	Leu	Ser
	Arg	Gln 50	Leu	Arg	Ala	Leu	Pro 55	Ser	Glu	Asp	Pro	Tyr 60	Gln	Leu	Glu	Leu
25	Pro 65	Ala	Leu	Gln	Ser	Glu 70	Val	Pro	Lys	Asp	Ser 75	Thr	His	Gln	Trp	Leu 80
30	Asp	Gly	Ser	Asp	Суs 85	Val	Leu	Gln	Ala	Pro 90	Gly	Asn	Thr	Ser	Cys 95	Leu
30	Leu	His	Tyr	Met 100	Pro	Gln	Ala	Pro	Ser 105	Ala	Glu	Pro	Pro	Leu 110	Glu	Trp
35	Pro	Phe	Pro 115	Asp	Leu	Phe	Ser	Glu 120	Pro	Leu	Cys	Arg	Gly 125	Pro	Ile	Leu
	Pro	Leu 130	Gln	Ala	Asn	Leu	Thr 135	Arg	Lys	Gly	Gly	Trp 140	Leu	Pro	Thr	Gly
40	Ser 145	Pro	Ser	Val	Ile	Leu 150	Gln	Asp	Arg	Tyr	Ser 155	Gly				
45	(2)	INFO	ORMAT	MOL	FOR	SEQ	ID N	Ю: 1	.37:							
50				(1	A) LI B) T D) T	ENGT YPE: OPOL	H: 2: amin OGY:	33 aı no ad lind	mino cid ear	acio						
	Met			SEQU Leu						_				Δla	Δla	T eu
55	1				5					10					15	
	₽GĦ	viq	val	Gly 20	тте	ırp	val	ser	25	мsр	στλ	ATG	ser	Phe 30	ren	гÀЗ
60	Ile	Phe	Gly 35	Pro	Leu	Ser	Ser	Ser 40	Ala	Met	Gln	Phe	Val 45	Asn	Val	Gly

	Trp	Ile	Ser 435	Leu	Glu	Gln	Asn	Gly 440	Ile	Met	Val	Glu	Leu 445	Pro	Gln	Leu
5	Thr	Ile 450	His	Gln	Met	Pro	Суs 455	Lys	Trp	Gly	Trp	Ala 460	Leu	Ala	Leu	Thr
10	Asn 465	Val	Ile													
	(2)	INFO	ORMAT	rion	FOR	SEQ	ID 1	NO: .	135:							
15			(i) :	(	ENCE A) L B) T D) T	ENGT YPE :	H: 2 ami	22 a no a	mino cid		ds					٠
20			(xi)	SEQ	UENC	E DE	SCRI	PTIO	N: SI	EQ II	D NO	: 13	5:			
_0	Met 1	Trp	Ser	Ala	Gly 5	Arg	Gly	Gly	Ala	Ala 10	Trp	Pro	Val	Leu	Leu 15	Gly
25	Leu	Leu	Leu	Ala 20	Leu	Leu	Val	Pro	Gly 25	Gly	Gly	Ala	Ala	Lys 30	Thr	Gly
	Ala	Glu	Leu 35	Val	Thr	Суѕ	Gly	Ser 40	Val	Leu	Lys	Leu	<b>Le</b> u <b>4</b> 5	Asn	Thr	His
30	His	Arg 50	Val	Arg	Leu	His	Ser 55	His	Asp	Ile	Lys	Туг 60	Gly	Ser	Gly	Ser
35	Gly 65	Gln	Gln	Ser	Val	Thr 70	Gly	Val	Glu	Ala	Ser 75	Asp	Asp	Ala	Asn	Ser 80
	-	-			Arg 85					90	_				95	
40	Pro	Val	Arg	Cys 100	Gly	Gln	Ala	Val	Arg 105	Leu	Thr	His	Val	Leu 110	Thr	Gly
	•		115		Thr			120					125			
45	Glu	Val 130		Ala	Phe	Gly	Glu 135	Asp	Gly	Glu	Gly	Asp 140	Asp	Leu	Asp	Leu
50	Trp 145	Thr	Val	Arg	Cys	Ser 150	Gly	Gln	His	Trp	Glu 155	Arg	Glu	Ala	Ala	Val 160
	Arg	Phe	Gln	His	Val 165	Gly	Thr	Ser	Val	Phe 170	Leu	Ser	Val	Thr	Gly 175	Glu
55	Gln	Tyr	Gly	Ser 180	Pro	Ile	Arg	Gly	Gln 185	His	Glu	Val	His	Gly 190	Met	Pro
	Ser	Ala	Asn 195	Thr	His	Asn	Thr	Trp 200	Lys	Ala	Met	Glu	Gly 205	Ile	Phe	Ile
60	Lys	Pro	Ser	Val	Glu	Pro	Ser	Ala	Gly	His	Asp	Glu	Leu	Xaa		

	Asn	Ala	Asn 115	Gln	Trp	Ala	Xaa	Ile 120	Phe	Gln	Ala	Ser	Gly 125	Ala	Lys	Туг
5	Ile	Val 130	Leu	Thr	Ser	Lys	Ніs 135	His	Glu	Gly	Phe	Thr 140	Leu	Trp	Gly	Ser
10	Glu 1 <b>4</b> 5	Tyr	Ser	Trp	Asn	Trp 150	Asn	Ala	Ile	Asp	Glu 155	Gly	Pro	Lys	Arg	Asp 160
	Ile	Val	Lys	Glu	Leu 165	Glu	Val	Ala	Ile	Arg 170	Asn	Arg	Thr	Asp	Leu 175	Arg
15	Phe	Gly	Leu	<b>Tyr</b> 180	Tyr	Ser	Leu	Phe	Glu 185	Trp	Phe	His	Pro	Leu 190	Phe	Leu
	Glu	Asp	Glu 195	Ser	Ser	Ser	Phe	His 200	Lys	Arg	Gln	Phe	Pro 205	Val	Ser	Lys
20	Thr	<b>Leu</b> 210	Pro	Glu	Leu	Tyr	Glu 215	Leu	Val	Asn	Asn	Tyr 220	Gln	Pro	Glu	Val
25	Leu 225	Trp	Ser	Asp	Gly	Asp 230	Gly	Gly	Ala	Pro	Asp 235	Gln	Tyr	Trp	Asn	Xaa 240
	Thr	Gly	Phe	Leu	Ala 245	Trp	Leu	Tyr	Asn	Glu 250	Ser	Pro	Val	Arg	Gly 255	Thr
30	Val	Val	Thr	Asn 260	Asp	Arg	Trp	Gly	Ala 265	Gly	Ser	Ile	Суѕ	Lys 270	His	Gly
	Gly	Phe	Туг 275	Thr	Cys	Ser	Asp	<b>A</b> rg 280	Tyr	Asn	Pro	Gly	His 285	Leu	Leu	Pro
35	His	Lys 290	Trp	Glu	Asn	Cys	Met 295	Thr	Ile	Asp	Lys	Leu 300	Ser	Trp	Gly	Tyr
40	Arg 305	Arg	Glu	Ala	Gly	Ile 310	Ser	Asp	Tyr	Leu	Thr 315	Ile	Glu	Glu	Leu	Val 320
	Lys	Gln	Leu	Val	Glu 325	Thr	Val	Ser	Cys	Gly 330	Gly	Asn	Leu	Leu	Met 335	Asn
45	Ile	Gly	Pro	Thr 340	Leu	Asp	Gly	Thr	Ile 345	Ser	Val	Val	Phe	Glu 350	Glu	Arg
	Leu	Arg	Gln 355	Met	Gly	Ser	Trp	Leu 360	Lys	Val	Asn	Gly	Glu 365	Ala	Ile	Tyr
50	Glu	Thr 370	His	Thr	Trp	Arg	Ser 375	Gln	Asn	Asp	Thr	Val 380	Thr	Pro	Asp	Val
55	Trp 385	Tyr	Thr	Ser	Lys	Pro 390	Lys	Glu	Lys	Leu	Val 395	Tyr	Ala	Ile	Phe	Leu 400
	Lys	Trp	Pro	Thr	Ser 405	Gly	Gln	Leu	Phe	Leu 410	Gly	His	Pro	Lys	Ala 415	Ile
60	Leu	Gly	Ala	Thr 420	Glu	Val	Lys	Leu	Leu 425	Gly	His	Gly	Gln	Pro 430	Leu	Asn

5	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 553 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: double  (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 133:	
10	GGCAGAGAGC AGATGGCCTT GACACCAGCA GGGTGACATC CGCTATTGCT ACTTCTCTGC	60
	TCCCCCACAG TTCCTCTGGA CTTCTCTGGA CCACAGTCCT CTGCCAGACC CCTGCCAGAC	120
1.5	CCCAGTCCAC CATGATCCAT CTGGGTCACA TCCTCTTCCT GCTTTTGCTC CCAGTGGCTG	180
15	CAGCTCAGAC GACTCCAGGA GAGAGATCAT CACTCCCTGC CTTTTACCCT GGCACTTCAG	240
	GCTCTTGTTC CGGATGTGGG TCCCTCTCTC TGCCGCTCCT GGCAGGCCTC GTGGCTGCTG	300
20	ATGCGGTGGC ATCGCTGCTC ATCGTGGGGG CGGTGTTCCT GTGCGCACGC CCACGCCGCA	360
	GCCCCGCCCA AGATGGCAAA GTCTACATCA ACATGCCAGG CAGGGGCTGA CCCTCCTGCA	420
05	GCTTGGACCT TTGACTTCTG ACCCTCTCAT CCTGGATGGT GTGTGGTGGC ACAGGAACCC	480
25	CCGCCCCAAC TTTTGGATTG TAATAAAACA ATTGAAACAC CAAAAAAAAA AAAAAAAAAA	540
	AAAAAAAAA AAA	<b>55</b> 3
30		
	(2) INFORMATION FOR SEQ ID NO: 134:	
35	(i) SEQUENCE CHARACTERISTICS:	
33	(A) LENGTH: 467 amino acids (B) TYPE: amino acid	
	(D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 134:	
40	Met Arg Pro Glu Leu Pro Arg Leu Ala Phe Pro Leu Leu Leu	
	1 5 10 15	
15	Leu Leu Leu Leu Pro Pro Pro Pro Cys Pro Ala His Ser Ala Thr	
45		
	Arg Phe Asp Pro Thr Trp Glu Ser Leu Asp Ala Arg Gln Leu Pro Ala 35 40 45	
50	Trp Phe Asp Gln Ala Lys Phe Gly Ile Phe Ile His Trp Gly Val Phe 50 55 60	
55	Ser Val Pro Ser Phe Gly Ser Glu Trp Phe Trp Trp Tyr Trp Gln Lys 65 70 75 80	
	Glu Lys Ile Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro 85 90 95	
60	Xaa Phe Lys Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe	

	TIGATIFITGI TICCATCITC TGTAATCITC CAAAGAATTA TATCITIGTA AATCICTCAA	2220
5	TACTCAATCT ACTGTAAGTA CCCAGGGRGG STAATTTCYT TAAAAAAAAA AAAAAAAA	2278
10	(2) INFORMATION FOR SEQ ID NO: 132:  (i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 1088 base pairs  (B) TYPE: nucleic acid	
15	(C) STRANDEDNESS: double (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:	
20	GGCAGGGGGG GCGTGAACCC GTCGGGCACT GTGTCCCTGA CAATGGGAAC AGCCGACAGT	60
20	GATGAGATGG CCCCGGAGCC CCACAGCACA CCCACATCGA TGTGCACATC CACCAGGAGT	120
	CTGCCCTGGC CAAGCTCCTG CTCACCTGCT GCTCTGCGCT GCGGCCCCGG GCCACCCAGG	180
25	CCAGGGGCAG CANCCGGCTG CTGGTGGCCT CGTGGGTGAT GCAGATCGTG CTGGGGATCT	240
	TGAGTGCAGT CCTAGGAGGA TTTTTCTACA TCCGCGACTA CACCCTCCTC GTCACCTCGG	300
20	GAGCTGCCAT CTGGACAGGG GCTGTGGCTG TGCTGGCTGGC AGCTGCTGCC TTCATTTAYG	360
30	AGAAACGGGG TGGTACATAC TGGGCCCTGC TGAGGACTCT GCTARCGCTG GCAGCTTTCT	420
	CCACAGCCAT CGCTGCCCTC AAACTTTGGA ATGAAGATTT CCGATATGGC TACTCTTATT	480
35	ACAACAGTGC CTGCCGCATC TCCAGCTCGA GTGACTGGAA CACTCCAGCC CCCACTCAGA	540
	GTCCAGAAGA AGTCAGAAGG CTACACCTAT GTACCTCCTT CATGGACATG CTGAAGGCCT	600
40	TGTTCAGAAC CCTTCAGGCC ATGCTCTTGG GTGTCTGGAT TCTGCTGCTT CTGGCATCTC	660
40	TGGCCCCTCT GTGGCTGTAC TGCTGGAGAA TGTTCCCAAC CAAAGGGAAA AGAGACCAGA	720
	AGGAAATGTT GGAAGTGAGT GGAATCTAGC CATGCCTCTC CTGATTATTA GTGCCTGGTG	780
45	CTTCTGCACC GGGCGTCCCT GCATCTGACT GCTGGAAGAA GAACCAGACT GAGGAAAAGA	840
	GGCTCTTCAA CAGCCCCAGT TATCCTGGCC CCATGACCGT GGCCACAGCC CTGCTCCAGC	900
<b>5</b> 0	AGCACTTGCC CATTCCTTAC ACCCCTTCCC CATCCTGCTC CGCTTCATGT CCCCTCCTGA	960
50	GTAGTCATGT GATAATAAAC TCTCATGTTA TTGTTCCNAA AAAAAAAAA AAAAAAAAAT	1020
	TGGGGGGGG CCGGTACCCA TTGGGCCTNN GGGGGGGGTT TAAAATTAAT GGGGGGGGTT	1080
55	TAAAAGGG	1088

	CATGCAAAGG	ATGGGATATT	CCGCCGTTAT	CGTGGCCCAG	GAATCTTCGA	AGACCTGCAG	420
5	AATTATATCT	TAGAGAAGAA	ATGGCAATCA	GTCGAGCCTC	TGACTGGCTG	GAAATCCCCG	480
	GCTTCTCTAA	CGATGTCTGG	AATGGCTGGT	CTTTTTAGCA	TCTCTGGCAA	GATATGGCAT	540
	CTTCACAACT	ATTTCACAGT	GACTCTTGGA	ATTCCTGCTT	GGTGTTCTTA	TGTCTTTTTC	600
10	GTCATAGCCA	CCTTGGTTTT	TGGCCTTTTT	ATGGGTCTGG	TCTTGGTGGT	AATATCAGAA	660
	TGTTTCTATG	TGCCACTTCC	AAGGCATTTA	TCTGAGCGTT	CTGAGCAGAA	TCGGAGATCA	720
15	GAGGAGGCTC	ATAGAGCTGA	ACAGTTGCAG	GATGCGGAGG	AGGAAAAAGA	TGATTCAAAT	780
15	GAAGAAGAAA	ACAAAGACAG	CCTTGTAGAT	GATGAAGAAG	AGAAAGAAGA	TCTTGGCGAT	840
	GAGGATGAAG	CAGAGGAAGA	AGAGGAGGAG	GACAACTTGG	CTGCTGGTGT	GGATGAGGAG	900
20	AGAAGTGAGG	CCAATGATCA	GGGCCCCCA	GGAGAGGACG	GTGTGACCCG	GGAGGNAAGT	960
	AGAGCCTGAG	GAGGCTGAAG	AAGGCATCTC	TGAGCAACCC	TGCCCAGCTG	ACACAGAGGT	1020
25	GGTGGAAGAC	TCCTTGAGGC	AGCGTAAAAG	TCAGCATGCT	GNCAAGGGAC	TGTAGATTTA	1080
	ATGATGCGTT	TTCAAGAATA	CACACCAAAA	CAATATGTCA	GCTTCCCTTT	GGCCTGCAGT	1140
	TTGTACCAAA	TCCTTAATTT	TTCCTGAATG	AGCAAGCTTC	TCTTAAAAGA	TGCTCTCTAG	1200
30	TCATTTGGTC	TCATGGCAGT	AAGCCTCATG	TATACTAAGG	AGAGTCTTCC	AGGTGTGACA	1260
	ATCAGGATAT	AGAAAAACAA	ACGTAGTGTN	TGGGATCTGT	TTGGAGACTG	GGATGGGAAC	1320
35	AAGTTCATTT	ACTTAGGGGT	CAGAGAGTCT	CGACCAGAGG	AGGCCATTCC	CAGTCCTAAT	1380
	CAGCACCTTC	CAGAGACAAG	GCTGCAGGCC	TGTGAAATGA	AAGCCAAGCA	GGAGCCTTGG	1440
	CTCTGAGGCA	TCCCCAAAGT	GTAACGTAGA	AGCCTTGCAT	CCTTTTCTTG	TGTAAAGTAT	1500
40	TTATTTTTGT	CAAATTGCAG	GAAACATCAG	GCACCACAGT	GCATGAAAAA	TCTTTCACAG	1560
	CTAGAAATTG	AAAGGCCTT	GGGTATAGAG	AGCAGCTCAG	AAGTCATCCC	AGCCCTCTGA	1620
45	ATCTCCTGTG	CTATGTTTTA	TTTCTTACCT	TTAATTTTTC	CAGCATTTCC	ACCATGGGCA	1680
75	TTCAGGCTCT	CCACACTCTT	CACTATTATC	TCTTGGTCAG	AGGACTCCAA	TAACAGCCAG	1740
	GTTTACATGA	ACTGTGTTTG	TTCATTCTGA	CCTAAGGGGT	TTAGATAATC	AGTAACCATA	1800
50	ACCCCTGAAG	CTGTGACTGC	CAAACATCTC	AAATGAAATG	TTGTRGCCAT	CAGAGACTCA	1860
	AAAGGAAGTA	AGGATTTTAC	AAGACAGATT	TAAAAAAAA	TGTTTTGTCC	NAAAATATAG	1920
55	TTGTTGTTGA	TTTTTTTTA	AGTTTTCTAA	GCAATATTT	TCAAGCCAGA	AGTCCTCTAA	1980
55	GTCTTGCCAG	TACAAGGTAG	TCTTGTGAAG	AAAAGTTGAA	TACTGTTTTG	TTTTCATCTC	2040
	AAGGGGTTCC	CIGGGICTIG	AACTACTTTA	ATAATAACTA	AAAAACCACT	TCTGATTTTC	2100
60	CTTCAGTGAT	GTGCTTTTGG	TGAAAGAATI	AATGAACTCC	AGTACCTGAA	AGTGAAAGAT	2160

	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 130:	
	AGAGGACGGT GTGACCCGGG AGGAAGTAGA GCCTGAGGAG GCTGAAGAAG GCATCTCTGA	60
5	GCAACCCTGC CCAGCTGACA CAGAGGTGGT GGAAGACTCC TTGAGGCAGC GTAAAAGTCA	120
	GCATGCTGAC AAGGGACTGT AGATTTAATG ATGCGTTTTC AAGAATACAC ACCAAAACAA	180
10	TATGTCAGCT TCCCTTTGGC CTGCAGTTTG TACCAAATCC TTAATTTTTY YTGAATGAGC	240
	AAGCTTCTCT TAAAAGATGC TCTCTAGTCA TTTGGTCTCA TGGCAGTAAG CCTCATGTAT	300
	ACTAAGGAGA GTCTTCCAGG TGTGACAATC AGGATATAGA AAAACAAACG TAGTGTNTGG	360
15	GATCTGTTTG GAGACTGGGA TGGGAACAAG TTCATTTACT TAGGGGTCAG AGAGTCTCGA	420
	CCAGAGGAGG CCATTCCCAG TCCTAATCAG CACCTTCCAG AGACAAGGCT GCAGGCCCTG	480
20	TGAAATGAAA GCCAAGCAGG AGCCTTGGCT CTGAGNCATC CCCAAAGTGT AACGTAGAAG	540
20	CCTTGCATCC TTTTCTTGTG TAAAGTATTT ATTTTTGTCA AATTGCAGGA AACATCAGGC	600
	ACCACAGTGC ATGAAAAATC TTTCACAGCT AGAAATTGAA AGGGCCTTGG GTATAGAGAG	660
25	CAGCTCAGAA GTCATCCCAG CCCTCTGAAT CTCCTGTGCT ATGTTTTATT TCTTACCTTT	720
	AATTITICCA GCATITCCAC CATGGGCATT CAGGCTCTCC ACACTCTTCA CTATTATCTC	780
30	TTGGTCAGAG GACTCCAATA ACAGCCAGGT TTACATGAAC TGTGTTTGTT CATTCTGACC	840
	TAAGGGGTTT AGATAATCAG TAACCATAAC CCCTGAAGCT GTGACTGCCA AACATCTCAA	900
	ATGAAATGTT GTRGCCATCA GAGACTCAAA AGGAAGTAAG GATTTTACAA GACAGATTAA	960
35	AAAAAAATTG TTTTGTCCAA AAAANAAAAA AAAAAAACTC GAAGGGGGGG C	1011
40	(2) INFORMATION FOR SEQ ID NO: 131:	
	(i) SEQUENCE CHARACTERISTICS:	
	(A) LENGTH: 2278 base pairs (B) TYPE: nucleic acid	
45	(C) STRANDEDNESS: double (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:	
50	GTAATTCGGC ACGAGGCGCC CAACATGGCG GGTGGGCGCT GCGGCCCGCA SCTAACGGCG	60
50		
	CTCCTGGCCG CCTGGATCGC GGCTGTGGCG GCGACGCAG GCCCCGAGGA GGCCGCGCTG	120
55	CCGCCGGAGC AGAGCCGGGT CCAGCCCATG ACCGCCTCCA ACTGGACGCT GGTGATGGAG	180
	GGCGAGTGGA TGCTGAAATT TTACGCCCCA TGGTGTCCAT CCTGCCAGCA GACTGATTCA	240
60	GAATGGGAGG CTTTTGCAAA GAATGGTGAA ATACTTCAGA TCAGTGTGGG GAAGGTAGAT	300
60	GTCATTCAAG AACCAGGTTT GAGTGGCCGC TTCTTTGTCA CCACTCTCCC AGCATTTTTT	360

	GAGAGAGGCA	CTICGGGGGG	CAGTCCTAAA	TGGCGGCCCT	CCCAGCACGC	GCATCACACC	1380
5	TGAGTTCTCT	AAATGGGCCA	GTGATGAGAT	GCCATCCACC	AGCAATGGTG	AAAGCAGCAA	1440
3	GCAGGAGGCC	ATGCAGAAGA	CCTGCAAGAA	CAGCGACATC	GAGAAAATCA	CCGAAGATTC	1500
	AGCTGTGACC	ACGTTTGAGG	CTCTGAAGGC	TCGGGTCAGA	GAACTTGAAC	GGCAGCTATC	1560
10	TCGTGGGGAC	CGTTACAAAT	GCCTCATCTG	CATGGACTCG	TACTCGATGC	CCCTAACGTC	1620
	CATCCAGTGT	TGGCACGTGC	ACTGCGAGGA	GTGCTGGCTG	CGGACCCTGG	GTGCCAAGAA	1680
15	GCTCTGCCCT	CAGTGCAACA	CGATCACAGC	GCCCGGAGAC	CTGCGGAGGA	TCTACTTGTG	1740
13	AGCTATCTGC	CCCAGGCAGG	CCTCGCCTCC	AGCAGCCCCA	CCTGCCCCCA	GCCTCTGTGA	1800
	CAGTGACCGT	YTCCCTTTGT	ACATACTTGC	ACACAGGTTC	CCCATGTACA	TACATGCACA	1860
20	TACTCAAACA	TGCGTACACA	CACACACATT	TACACACGCA	GGACTCTGGA	GCCAGAGTAG	1920
	AGGCTGTGGC	CCAGGCACTA	CCTGCTGGCT	CCCACCTATG	GTTTGGGGGC	CATACCTGTT	1980
25	CCAGCTCTGT	TCCCAGGGTG	GGCCAGGGAG	GTGGGGGTTG	GGGGAGTAGT	GGGGCACGGC	2040
	TCCTAAGATC	CAGCCCCCAT	ACTGACAGAC	GGACAGACAG	ACATGCAAAC	ACCAGACTGA	2100
	AGCACATGTA	ATATAGACCG	TGTATGTTTA	CAATGTTGTG	TATAAATGGG	ACAACTCCTC	2160
30	GCCCTCTACC	TGTCCCCTCC	CCCTTTCGTT	GTATGATTTT	CTTCTTTTTT	AAGAACCCCT	2220
	GGAAGCAGCG	CCTCCTTCAG	GGTTGGCTGG	GAGCTCGGCC	CATCCACCTC	TTGGGGTAYC	2280
35	TGCCTCTCTC	TCTCCTGTGG	TGTCCCTTCC	CTCTCCCATG	TGCTCGGTGT	TCAGTGGTGT	2340
	ATATTTCTTC	TCCCAGACAT	GGGGCACACG	CCCCAAGGGA	CATGATCCTC	TCCTTAGTCT	2400
	TAGCTCATGG	GGCTCTTTAT	AAGGAGTTGG	GGGGTAGAGG	CAGGAAATGG	GAACCGAGCT	2460
40	GAAGCAGAGG	CTGAGTTAGG	GGGCTAGAGG	ACAGTGCTCC	TGGCCACCCA	GCCTCTGCTG	2520
	AGAACCATTC	CTGGGATTAG	AGCTGCCTTT	CCCAGGGAAA	AAGTGTCGTC	TCCCCGACCC	2580
45	TCCCGTGGGC	CCTGTGGTGT	GATGCTGTGT	CTGTATATTC	TATACAAAGG	TACTTGTCCT	2640
	TTCCCTTTGT	AAACTACATT	TGACATGGAT	TAAACCAGTA	TAAACAGTTA	AAAAAAAAA	2700
	AAAAAAAACT	CGA					2713

## (2) INFORMATION FOR SEQ ID NO: 130:

55 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1011 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

273

	ACTGCGGCCG CTGTCCCTTC TGTCGTCTTC TCGCAGCCGT ACCCTTCTGT CGTCTTCTCG	1920
	CAGCC	1925
5		
	(2) TATEODMANTON FOR GEO TO NO. 120	
10	(2) INFORMATION FOR SEQ ID NO: 129:	
10	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 2713 base pairs	
	(B) TYPE: nucleic acid (C) STRANDEDNESS: double	
15	(D) TOPOLOGY: linear	
13	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:	
	TCCTACCTTC CCAACCCTCT GGCATCCCCA GCACTGATGG TCCTGGCATC CACGGCTGAG	60
20	GCCAGCCGTG ACTGCTTCCA TCCCTTGTCA GCAGCCACGA CCCTTTGGTG TACCTGTYTC	120
	AGTTGACAAG GACGTGCATA TTCCTTTCAC CAACGGTTCC TATACCTTTG CCTCTATGTA	180
25	CCATCGGCAA GGTGGGGTGC CAGGCACTTT TGCCAATCGT GATTTCCCCC CTTCTCTACT	240
25	ACACCTCCAC CCTCAATTTG CTCCCCCAAA TCTAGATTGC ACCCCAATCA GTATGCTGAA	300
	TCATAAGTGG TGTGGGGGTT TCCGGCCTTT GSCTCCACCC GRGGACCGGG RGAGYTATCA	360
30	GTCAGCTTTA CGCCGGCCAA GCGACTTAAG AACTGCCATG ACACAGAGTC TCCCCACTTG	420
	CGCNTCTCAG ATGCAGATGG GAANGAATAT GACTTTGGGA CACAGCTGCM ATCTAGCTCC	480
35	CCCGGTTCAC TAAAGGTTGA TGACACTGGG AAGAAGATTT TTGCTGTCTC TGGCCTCATT	540
55	TCTGATCGGG AAGCCTCATC TAGCCCAGAG GNTCGGNAAT GACAGATGTA AGAAGAAAGC	600
	AGCGGCATTG TTCGACAGCC AGGCCCCAAT TTGCCCCCATC TGCCAGGTCC TGCTGAGGCC	660
40	CAGTGAGCTG CAGGAGCATA TGGAGCAGGA ACTGGAGCAG CTAGCCCAAC TGCCCTCGAG	720
	CAAGAATTCC CTTCTGAAGG ATGCCATGGC TCCAGGCACC CCAAAGTCCC TCCTGTTGTC	780
45	TGCTTCCATC AAGAGGGAAG GAGAGTCTCC AACGGCATCA CCCCACTCAT CTGCCACCGA	840
7J,	TGACCTCCAC CATTCAGACA GATACCAGAC CTTTCTGCGA GTACGAGCCA ACCGGCAGAC	900
	CCGAYTGAAT GYTCGGATTG GGAAAATGAA ACGGAGGAAG CAAGATGAAG GGCAGGTATG	960
50	TCCCCTGTGC AACCGCCCCC TGGCAGGATC GGAGCAGGAG ATGAGTAGGC ATGTGGAGCA	1020
	TTGCCTTTCT AAGAGGGAAG GCTCCTGCAT GGCTGAGGAT GATGCTGTGG ACATCGAGCA	1080
55	TGAGAACAAC AACCGCTTTG AGGAGTATGA GTGGTGTGGA CAGAAGCGGA TACGGGCCAC	1140
55	CACTCTCCTG GAAGGTGGCT TCCGAGGCTC TGGCTTCATC ATGTGCAGCG GCAAAGAGAA	1200
	CCCGGACAGT GATGCTGACT TGGATGTGGA TGGGGATGAC ACTCTGGAGT ATGGGAAGCC	1260

ACAATACACA GAGGCTGATG TCATCCCCTG CACAGGCGAG GAGCCTGGTG AAGCCAAGGA

1320

	ACTCTGGCAC	CACTCTCCAG	GCTGCCATGG	GGCCCAGCAC	CCCTCTCCTC	ATCTTGTTCC	120
	TTTTGTCATG	GTCGGGACCC	CTCCAAGGAC	AGCAGCACCA	CCTTGTGGAG	TACATGGAAC	180
5	GCCGACTAGC	TGCTTTAGAG	GAACGGCTGG	CCCAGTGCCA	GGACCAGAGT	AGTCGGCATG	240
	CTGCTGAGCT	GCGGGACTTC	AAGAACAAGA	TGCTGCCACT	GCTGGAGGTG	GCAGAGAAGG	300
• •	AGCGGGAGGC	ACTCAGAACT	GAGGCCGACA	CCATCTCCGG	GAGAGTGGAT	CGTCTGGAGC	360
10	GGGAGGTAGA	CTATCTGGAG	ACCCAGAACC	CAGCTCTGCC	CTGTGTAGAG	TTTGATGAGA	420
	AGGTGACTGG	AGGCCCTGGG	ACCAAAGGCA	AGGGAAGAAG	GAATGAGAAG	TACGATATGG	480
15	TGACAGACTG	TGGCTACACA	ATCTCTCAAG	TGAGATCAAT	GAAGATTCTG	AAGCGATTTG	540
	GTGGCCCAGC	TGGTCTATGG	ACCAAGGATC	CACTGGGGCA	AACAGAGAAG	ATCTACGTGT	600
20	TAGATGGGAC	ACAGAATGAC	ACAGCCTTTG	TCTTCCCAAG	GCTGCGTGAC	TTCACCCTTG	660
20	CCATGGCTGC	CCGGAAAGCT	TCCCGAGTCC	GGTGCCCTT	CCCCTGGGTA	GCACAGGC	720
	AGCTGGTATA	TGGTGGCTTT	CTTTATTTTG	CTCGGAGGCC	TCCTGGAAGA	CCTGGTGGAG	780
25	GTGGTGAGAT	GGAGAACACT	TTGCAGCTAA	TCAAATTCCA	CCTGGCAAAC	CGAACAGTGG	840
	TGGACAGCTC	AGTATTCCCA	GCAGAGGGGC	TGATCCCCC	CTACGGCTTG	ACAGCAGACA	900
30	CCTACATCGA	CCTGGCAGCT	GATGAGGAAG	GTCTTTGGGC	TGTCTATGCC	ACCCGGGAGG	960
	ATGACAGGCA	CTTGTGTCTG	GCCAAGTTAG	ATCCACAGAC	ACTGGACACA	GAGCAGCAGT	1020
	GGGACACACC	ATGTCCCAGA	GAGAATGCTG	AGGCTGCCTT	TKTCATCTGT	GGGACCCTCT	1080
35	ATGTCGTCTA	TAACACCCGT	CCTGCCAGTC	GGGCCCGCAT	CCAGTGCTCC	TTTGATGCCA	1140
	GCGGACCCTG	ACCCCTGAAC	GGGCAGCACT	CCCTTATTTT	CCCCGCAGAT	ATGGTGCCCA	1200
40	TGCCAGCCTC	CGCTATAACC	CCCGAGAACG	CCAGCTCTAT	GCCTGGGATG	ATGGCTACCA	1260
70	GATTGTCTAT	AAGCTGGAGA	TGAGGAAGAA	AGAGGAGGAG	GTTTGAGGAG	CTAGCCTTGT	1320
	TTTTTGCATC	TTTCTCACTC	CCATACATTI	ATATTATATC	CCCACTAAAT	TTCTTGTTCC	1380
45	TCATTCTTCA	AATGTGGGCC	AGTTGTGGCT	CAAATCCTCT	ATATTTTAG	CCAATGGCAA	1440
	TCAAATTCTT	TCAGCTCCTT	TGTTTCATAC	GGAACTCCAG	ATCCTGAGTA	ATCCTTTTAG	1500
50	AGCCCGAAGA	GTCAAAACCC	TCAATGTTCC	: CTCCTGCTCT	CCTGCCCCAT	GTCAACAAAT	1560
50	TTCAGGCTA	A GGATGCCCCA	GACCCAGGGC	TCTAACCTTG	TATGCGGGCA	GCCCAGGGA	1620
	GCAGGCAGC	A GTGTTCTTCC	CCTCAGAGTO	ACTTGGGGAG	GGAGAAATAG	GAGGAGACGT	1680
55	CCAGCTCTGT	r cereretre	TCACTCCTCC	CTTCAGTGTC	CTGAGGAACA	GGACTTTCTC	1740
	CACATTGTT	r tgtattgcal	CATTTTGCAT	TAAAAGGAAA	ATCCAMAAAA	AAAAAAAAA	1800
60	<b>KAAAAAAA</b>	AAAAAAAA	AAAAAAAA	AAAAAAAAA A	AAAAAAAA /	AAAAAAAA	1860
$\sigma \sigma$							

	AGAAGGGAGG GTGAGGGTAG AAGAAAGTTA TTCCCGAAGA AAAAAAGAAT GAAAAGTCAT	1200
	TGTACTGAAC TGTTTTTATA TTTTTAAAAG TTACTATTTA AAGCGGACGT CGTGGGTCGA	1260
5	CCCGGGAATT CCCGGACCGG TACTGTCAGG TCTAAC	1296
10	(2) INFORMATION FOR SEQ ID NO: 127:	
	(i) SEQUENCE CHARACTERISTICS:	
	(A) LENGTH: 737 base pairs (B) TYPE: nucleic acid	
15	(C) STRANDEDNESS: double	
	(D) TOPOLOGY: linear	
20	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:	
20	GGCANAGTGG AGGCAATGCC AGCTCCAGGA CAGAGGCTCA GGTGCCCAAC GGGCAAGGCA	60
	GCCCAGGGGG CTGTGTCTGT TCAAGTCAGG CTTCCCCGGC CCYTCGCGCA NCAGCGCTTC	120
25	CACGGGCAGC CCGGGGCCCC ACCCCACGCA CTGAAGAGGC CGCCTGGGCT GCCATGGCCC	180
	TGACCTTCCT GCTGGTGCTG CTCACCCTGG CCACGCTCTG CACACGGCTG CACAGAAACT	240
	TCCGACGCGG GGAGAGCATC TACTGGGGGC CCACAGCGGA CAGCCAGGAC ACAGTGGCTG	300
30	CTGTGCTGAA GCGGAGGCTG CTGCAGCCCT CGCGCCGGGT CAAGCGCTCG CGCCGGAGAC	360
	CCYTCYTCCC GCCCACGCCG GACAGCGGCC CGGAAGGCGA GAGCTCGGAG TGACGGCCTG	420
25	GGACCTGCCA CTGTGGCGTG CGGTCTCCCC GCGCCGCGAG GCCGCGAMCT NTGCCACGTG	480
35	GACCGCGCC NGGGCGCTMC CCTGGTGGCG ATGGCGCGC ACTGGCGAGC ACTGCGKGGG	540
	CTTTCCTCCT TGTTGGTTGC TGAGTGGGCG GCCAAGGGGA GAAAAGGAGC CGCTTYTGCC	600
40	TCCCTTGCCA AAACTCCGTT TCTAATTAAA TTATTTTTAG TAGAAAAAAA AAAAAAAAA	660
	AAAAAAAAA AAAAAAAAAA AAAAAAAAAC TCGAGGGGG GCCCGGTACC CAATTNGCCA	720
4.5	AATAGCGATC GTATNAA	737
45		
50	(2) INFORMATION FOR SEQ ID NO: 128:	
	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 1925 base pairs	
	(B) TYPE: nucleic acid	
55	(C) STRANDEDNESS: double (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:	
<b></b>	CCCCGCCTCC AAAGCTAACC CTCGGGCTTG AGGGGAAGAR GCTGACTGTA CGTTCCTTCT	60
60		

PCT/US98/04482

	CATGACTGAA AAGAGCAYCT GTACTTTTCA AGCCACTGGA GGGARAAATG GAAAACATGA	1140
5	AAACAGCAAT CTTCTTATGC TTCTGAATAA TCAAAGACTA ATTTGTGRTT TTACTTTTTA	1200
3	ATAGATATGA CTTTGCTTCC AACATGGAAT GAAATAAAAA ATAAATAATA AAAGATTGCC	1260
	ATGGAAAAA AAAAGNNGGG AN	1282
10		
	(2) INFORMATION FOR SEQ ID NO: 126:	
15	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 1296 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: double	
20	(D) TOPOLOGY: linear	
20	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:	
	GGCAGAGCTT AGAGTGTGGA AAAGGCAACC AGGTTGGCCG TAAGTGCCTG CTGGAATGCG	60
25	TGTGCCTCCA CASGGRTCTG GGCATCCGGA CTGATAACCA GCCGGCCAGA CTGAGGGATG	120
	GAAGGCACTG AGATGGGGGC CCGTCCAGGC GGACACCCGC AGAAATGGAG CTTTCTGTGG	180
20	TOTOTTGCAC TOTGGCTGCC TOTTGCCCTC TOTGTGTCTC TOTTTCTTGG TOTCTCCCTC	240
30	TCTCCTCCTC AGCCTGGTCT TTCTCTTTGG TGCACACTTA GTTATTGTTG TGAGCAATGG	300
	AAGTTCAAAG GAACTCCCTC TCCAGCTCTT CTGAATCTTG GGACACAGCC TAAAAAGGAC	360
35	AAAAAGTTAG AAGACAGCAT AGCAACTCAG CTCAGGGRGC TACCAGAGAA AAATAGCAAC	420
	TGATGTGGGT GCTTTTTTTT TTTTTTTAAT TTGAATAAAA AGAATTAGAA GTGATGTCCT	480
40	TTTATAAAAT GCCTTCTCCC CCTTCCCGCC TACAGTCTCT TCCTCTCCCC TTAGAGGGGG	540
40	GAAAGTGTAT AAACCTACAG GGTTGTGAGT CTGAAAAGAG GATCCCCCTC ACCCCCACCC	600
	TGGCCAGAGC AGTGGGGGTT GGGGGGTGGG AGAGGGGGAC ACAGATCCTG GCACACTGTG	660
45	GATATTTCTT GCAGATTGCA GTCTCTTGTG GCCCAAACAG GTTAGGTAGA CTATCGCCTC	720
	TGGCAGGTGC CACCTTTTGG TACCAACATG TTCTGAGGTG TTAGGATTTG GGTTGGGTTT	780
<b>5</b> 0	TIPTIGITIG TITTITITT CONFITGGIC TITTITITT TCYCCTTKTA AAGAAAAGCI	840
50	AAAGGCCGCT GTGAGTCCTG GTGGCAGGCT CTCCATGGAT GTAGCATATC GAAGATAATT	900
	TTTATACTGC ATTTTTATGG ATTATTTTGT AATGTGTGAT TCCGTCTGCT GAGGAGGTGG	960
55	GAGGGCTCC AGGGAAAGCC ACCCACCTTC AGTGAGGTTG CTCCCCAGCT GAGCGCACCG	1020
	GGCATGGGAT GTGGAGGCTG GCGACACACC CTGTGCCTCT CCAAGGCTGG GCGCGTGGGG	1080
	CGTCCAGAGT CTCTCGGGT CTCAGATGTC CATCTGCCAC CTCTTGTTAA GGCTCTAGCC	1140

1080

	TGTCTGGGAC AGGCCCTCAG CCCCTCCTGC CCCATCCACC CAGACAAGCA ATAAAAGTGG	1560
	TCTCCTCCCT GTGCATGCTT CTGCTTTCAG CCCCAGCCTC GTCACTTGAC TGTGAGGATC	1620
5	CTCTGGGTGT CAGGGAAGTC CTCCTCCAGC AGTGAGTCAT CGAAGGGTTC ACAAAAGGTG	1680
	TCGCTGCCAA AGACAGGGTT GGGGACAGAG ACCAGGGTGG GGTTGGTCCC TTCTTGCCAC	1740
10	GGTGAGAAGT CGTCGTCAGC CGGACGCGTG GGTCGACCCG GGAATTCCGG ACCGGTACCT	1800
10	GCAG	1804
15		
	(2) INFORMATION FOR SEQ ID NO: 125:	
20	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 1282 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: double  (D) TOPOLOGY: linear	
25	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:	
23	CCGCAGGNCA GCGACGCGAC TCTGGTGCGG GCCGTCTTCT TCCCCCCGAG CTGGGCGTGC	60
	GCGCCCCAA TGAACTGGGA GCTGCTGCTG TGGCTGCTGG TGCTGTGCGC GCTGCTCCTG	120
30	CTCTTGGTGC AGCTGCTGCG CTTCCTGAGG GCTGACGGCG ACCTGACGCT ACTATGGGCC	180
	GAGTGGCAGG GACGACGCCC AGAATGGGAG CTGACTGATA TGGTGGTGTG GGTGACTGGA	240
35	GCCTCGAGTG GAATTGGTGA GGAGCTGGCT TACCAGTTGT CTAAACTAGG AGTTTCTCTT	300
	CTCCTCTCAG CCAGAAGAGT GCATGAGCTG GAAAGGGTGA AAAGAAGATG CCTAGAGAAT	360
	GGCAATTTAA AAGAAAAAGA TATACTTGTT TTGCCCCTTG ACCTGACCGA CACTGGTTCC	420
40	CATGAAGCGG CTACCAAAGC TGTTCTCCAG GAGTTTGGTA GAATCGACAT TCTGGTCAAC	480
	AATGGTGGAA TGTCCCAGCG TTCTCTGTGC ATGGATACCA GCTTGGATGT CTACAGAAAG	540
45	CTAATAGAGC TTAACTACTT AGGGACGGTG TCCTTGACAA AATGTGTTCT GCCTCACATG	600
	ATCGAGAGGA AGCAAGGAAA GATTGTTACT GTGAATAGCA TCCTGGGTAT CATATCTGTA	660
	CCTCTTTCCA TTGGATACTG TGCTAGCAAG CATGCTCTCC GGGGTTTTTT TAATGGCCTT	720
50	CGAACAGAAC TTGCCACATA CCCAGGTATA ATAGTTTCTA ACATTTGCCC AGGACCTGTG	780
	CAATCAAATA TTGTGGAGAA TTCCCTAGCT GGAGAAGTCA CAAAGACTAT AGGCAATAAT	840
55	GGAGACCAGT CCCACAAGAT GACAACCAGT CGTTGTGTGC GGCTGATGTT AATCAGCATG	900
	GCCAATGATT TGAAAGAAGT TTGGATCTCA GAACAACCTT TCTTGTTAGT AACATATTTG	960
	TGGCAATACA TGCCAACCTG GGCCTGGTGG ATAACCAACA AGATGGGGAA GAAAAGGATT	1020

GAGAACTTTA AGAGTGGTGT GGATGCAGAC TCTTCTTATT TTAAAATCTT TAAGACAAAA

. 5

60

## (2) INFORMATION FOR SEQ ID NO: 124:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1804 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

10	(X1) SEQUENCE DESCRIPTION: SEQ 1D NO: 124:	
10	CGCACCTATG GGCTCGCTAC CAGGACATGC GGAGACTGGT GCACGACCTC CTGCCCCCCG	60
	AGGTCTGCAG TCTCCTGAAC CCAGCAGCCA TCTACGCCAA CAACGAGATC AGCCTGCGTG	120
15	ACGTTGAGGT CTACGGCTTT GACTACGACT ACACCCTGGC CCAGTATGCA GACGCACTGC	180
	ACCCCGAGAT CTTCAGTACC GCCCGTGACA TCCTGATCGA GCACTACAAG TACCCAGAAG	240
20	GGATTCGGAA GTATGACTAC AACCCCAGCT TTGCCATCCG TGGCCTCCAC TATGACATTC	300
20	AGAAGAGCCT TCTGATGAAG ATTGACGCCT TCCACTACGT GCAGCTGGGG ACAGCCTACA	360
	GGGGCCTCCA GCCTGTGCCA GACGAGGAGG TGATTGAGCT GTATGGGGGT ACCCAGCACA	420
25	TCCCACTATA CCAGATGAGT GGCTTCTATG GCAAGGGTCC CTCCATTAAG CAGTTCATGG	480
	ACATCTTCTC GCTACCGGAG ATGGCTCTGC TGTCCTGTGT GGTGGACTAC TTTCTGGGCC	540
••	ACAGCCTGGN AGTTTGACCA AGCACATCTC TACAAGGACG TGACGGACGC CATCCGAGAC	600
30	GTGCATGTGA AGGGCCTCAT GTACCAGTGG ATCGAGCAGG ACATGGAGAA GTACATCCTG	660
	AGAGGGGATG AGACGTTTGC TGTCCTGAGC CGCCTGGTGG CCCATGGGAA ACAGCTGTTC	720
35	CTCATCACCA ACAGTCCTTT CAGCTTCGTA GACAAGGGGA TGCGGCACAT GGTGGGTCCC	780
	GATTGGCGCC ACTCTTCGAT GTGGTCATTG TCCAGGCAGA CAAGCCCAGC TTCTTCACTG	840
40	ACCGGCGCAA GCTTTCAGA AAACTCGATG AGAAGGGCTC ACTTCAGTGG GACCGGATCA	900
40	CCCGCTTGGA AAAGGGCAAG ATCTATCGGC AGGGAAACCT GTTTGACTTC TTACGCTTGA	960
	CGGAATGGCG TGGCCCCCGC GTGCTCTACT TCGGGGACCA CCTCTATAGT GATCTGGCGG	1020
45	ATCTCATGCT GCGGCACGGC TGGCGCACAG GCGCCATCAT CCCCGAGCTG GAGCGTGAGA	1080
	TCCGCATCAT CAACACGGAG CAGTACATGC ACTCGCTGAC GTGGCAGCAG GCGCTCACGG	1140
	GGCTGCTGGA GCGCATGCAG ACCTATCAGG ACGCGGAGTC GAGGCAGGTG CTGGCTGCCT	1200
50	GGATGAAAGA GCGGCAGGAG CTGAGGTGCA TCACCAAGGC CCTGTTCAAT GCGCAGTTCG	1260
	GCAGCATCTT CCGCACCTTC CACAACCCCA CCTACTTCTC AAAGGCGCCT CGTGCGCTTC	1320
55	TCTGACCTCT ACATGGCCTC CCTCAGCTGC CTGCTCAACT ACCGCGTGGA CTTCACCTTC	1380
	TACCCACGCC GTACGCCGCT GCAGCACGAG GCACCCCTCT GGATGGACCA GCTCTGCACC	1440
	GGCTGCATGA AGACCCCCTT CCTTGGTGAC ATGGCCCACA TCCGCTGAGG GCACCTTTAT	1500

WO 98/39446 PCT/US98/04482

267

GAAGAG 1686

5

10

### (2) INFORMATION FOR SEQ ID NO: 123:

### (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1211 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

15 CAGCCTGTGC CAGACGAGGA GGTGATTGAG CTGTATGGGG GTACCCAGCA CATCCCACTA 60 TACCAGATGA GTGGCTTCTA TGGCAAGGGT CCCTCCATTA AGCAGTTCAT GGACATCTTC 120 20 TCGCTACCGG AGATGGCTCT GCTGTCCTGT GTGGTGGACT ACTTTCTGGG CCACAGCCTG 180 GAGTTTGACC AAACATCTCT ACAAGGACGT GACGGACGCC ATCCGAGACG TGCATGTGAA 240 GGGCCTCATG TACCAGTGGA TCGAGCAGGA CATGGAGAAG TACATCCTGA GAGGGGATGA 300 25 GACGTTTGCT GTCCTGAGCC GCCTGGTGGC CCATGGGAAA CAGCTGTTCC TCATCACCAA 360 CAGTCCTTTC AGCTTCGTAG ACAAGGGGAT GCGGCACATG GTGGGTCCCG ATTGGCGCCA 420 30 CTCTTCGATG TGGTCATTGT CCAGGCAGAC AAGCCCAGCT TCTTCACTGA CCGGCGCAAC 480 TTTCAGAAAA CTCGATGAGA AGGGCTCACT TCAGTGGGAC CGGATCACCC GCTTGGAAAA 540 GGGCAAGATC TATCGGCAGG GAAACCTGTT TGACTTCTTA CGCTTGACGG AATGGCGTGG 600 35 CCCCCGCGTG CTCTACTTCG GGGACCACCT CTATAGTGAT CTGGCGGATC TCATGCTGCG 660 GCACGGCTGG CGCACAGGCG CCATCATCCC CGAGCTGGAG CGTGAGATCC GCATCATCAA 720 40 CACGGAGCAG TACATGCACT CGCTGACGTG GCAGCAGGCG CTCACGGGGC TGCTGGAGGG 780 CATGCAGACC TATCAGGACG CGGAGTCGAG GCAGGTGCTG GCTGCCTGGA TGAAAGAGCG 840 900 GCAGGAGCTG AGGTGCATCA CCAAGGCCCT GTTCAATGCG CAGTTCGGCA GCATCTTCCG 45 CACCTTCCAC AACCCCACCT ACTTCTCAAG GCGCCTCGTG CGCTTCTCTG ACCTCTACAT 960 GGCCTCCCTC AGCTGCCTGC TCAACTACCG CGTGGACTTC ACCTTCTACC CACGCCGTAC 1020 50 GCCGCTGCAG CACGAGGCAC CCCTCTGGAT GGACCAGCTT CTGCACCGGC TGCATGAAGA 1080 CCCCCTTCCT TGGTGACATG GCCCACATCC GCTGAGGGCA CCTTTATTGT CTGGGACAGG 1140 CCCTCAGCCC CTCCTGCCCC ATCCACCCAG ACAAGCAATA AAAGTGGTCT CCTCCCTGAA 1200 55 ААААААААА А 1211

## (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

	(AI) DECOMICE DESCRIPTION. DEC IS NO. 122.	
5	GCTGGAGATT CACATTTTAC CTGATTGCCT TCATTGCCGG CATGGCCGTC ATTGTGGATA	60
	AACCCTGGTT CTATGACATG AAGAAAGTTT GGGAGGGATA TCCCATACAG AGCACTATCC	120
10	CTTCCCAGTA TIGGTACTAC ATGATTGAAC TTTCCTTCTA CTGGTCCCTG CTCTTCAGCA	180
10	TTGCCTCTGA TGTCAAGCGA AAGGATTTCA AGGAACAGAT CATCCACCAT GTGRCCACCA	240
	TCATTCTCAT CAGCTTTTCC TGGTTTGCCA ATTACATCCG AGCTGGGACT CTAATCATGG	300
15	CTCTGCATGA CTCTTCCGAT TACCTGCTGG AGTCAGCCAA GATGTTTAAC TACGCGGGAT	360
	GGAAGAACAC CTGCAACAAC ATCTTCATCG TCTTCGCCAT TGTTTTTATC ATCACCCGAC	420
20	TOGTCATCCT GCCCTTCTGG ATCCTGCATT GCACCCTGGT GTACCCACTG GAGCTCTATC	480
20	CTGCCTTCTT TGGSTATTAC TTCTTCAATT CCATGATGGG AGTTCTACAG CTGCTGCATA	540
	TCTTCTGGGC CTACCTCATT TTGCGCATGG CCCACAAGTT CATAACTGGG AAAGCTGGTA	600
25	GAAGATGAAC GCAWGCRCGG GNAAGAAACA GAGAGCTCAG AGGGGGAGGA GGCTGCAGCT	660
	GGGGGAGGAG CAAAGAGCCG GCCCCTAGCC AATGGCCACC CCATCCTCAA TAACAACCAT	720
30	CGTAAGAATG ACTGAACCAT TATTCCAGCT GCCTCCCAGA TTAATGCATA AAGCCAAGGA	780
30	ACTACCCYGC TCCCTGCGCT ATAGGGTCAC TTTAAGCTCT GGGGAAAAAG GAGAAAGTGA	840
	GAGGAGAGTT CTCTGCATCC TCCCTCCTTG CTTGTCACCC AGTTGCCTTT AAACCAAATT	900
35	CTAACCAGCC TATCCCCAGG TAGGGGGACG TTGGTTATAT TCTGTTAGAG GGGGACGGTC	960
	GTATTTTCCT CCCTACCCGC CAAGTCATCC TTTCTACTGC TTTTGAGGCC CTCCCTCAGC	1020
40	TCTCTGTGGG TAGGGGTTAC AATTCACATT CCTTATTCTG AGAATTTGGC CCCAGCTGTT	1 <b>0</b> 80
70	TGCCTTTGAC TCCCTGACCT CCAGAGCCAG GGTTGTGCCT TATTGTCCCA TCTGTGGGCC	1140
	TCATTCTGCC AAAGCTGGAC CAAGGCTAAC CTTTCTAAGC TCCCTAACTT GGGCCAGAAA	1200
45	CCAAAGCTGA GCTTTTAACT TTCTCCCTCT ATGACACAAA TGAATTGAGG GTAGGAGGAG	1260
	GGTGCACATA ACCCTTACCC TACCTCTGCC AAAAAGTGGG GGCTGTACTG GGGACTGCTC	1320
50	GGATGATCTT TCTTAGTGCT ACTTCTTTCA GCTGTCCCTG TAGCGACAGG TCTAAGATCT	1380
30	GACTGCCTCC TCCTTTCTCT GGCCTCTTCC CCCTTCCCTC TTCTCTTCAG CTAGGCTAGC	1440
	TGGTTTGGAG TAGAATGGCA ACTAATTCTA ATTTTATTT ATTAAATATT TGGGGTTTTG	1500
55	GTTTTAAAGC CAGAATTACG GCTAGCACCT AGCATTTCAG CAGAGGGACC ATTTTAGACC	1560
	AAAATGTACT GTTAATGGGT TTTTTTTTAA AATTAAAAGA TTAAATAAA	1620
60	AAAACATGGC AATAAGTGTC AGACTATTAG GAATTGAGAA GGGGGATCAA CTAAATAAAC	1680
00		

	TACATTTTTG	TAAATTTITG	AAATGCTAGT	AATGTGTTTT	CACCAGCAAG	TATTTGTTGC	1320
	AAACTTAATG	TCATTTTCCT	TAAGATGGTT	ACAGCTATGT	AACCTGTATT	ATTCTGGACG	1380
5	GACTTATTAA	AATACAAACA	GACAAAAAAT	AAAACAAAAC	TTGAGTTCTA	TTTACCTTGC	1440
	ACATITITIG	TIGITACAGT	GAAAAAAATG	GTCCAAGAAA	ATGTTTGCCA	TTTTTGCATT	1500
10	GTTTCGTTTT	TAACTGGAAC	ATTTAGAAAG	AAGGAAATGA	ATGTGCATTT	TATTAATTCC	1560
10	TTAGGGGCAC	AAGGAGGACA	ATAATAGCTG	ATCTTTTGAA	ATTTGAAAAA	CGTCTTTAGA	1620
	TGACCAAGCA	AAAAGACTTT	AAAAAATGGT	AATGAAAATG	GAATGCAGCT	ACTGCAGCTA	1680
15	АТАААААТТ	TTAGATAGCA	ATTGTTACAA	CCATATGCCT	TTATAGCTAG	ACATTAGAAT	1740
	TATGATAGCA	TGAGTTTATA	CATTCTATTA	TTTTTCCTCC	CTTTCTCATG	TTTTTATAAA	1800
20	TAGGTAATAA	AAAATGTTTT	GCCTGCCAAT	TGAATGATTT	CGTAGCTGAA	GTAGAAACAT	1860
20	TTAGGTTTCT	GTAGCATTAA	attgtgaaga	CAACTGGAGT	GGTACTTACT	GAAGAAACTC	1920
	TCTGTATGTC	CTAGAATAAG	AAGCAATGAT	GTGCTGCTTC	TGATTTTTCT	TGCATTTTAA	1980
25	ATTCTCAGCC .	AACCTACAGC	CATGATCTTT	AGCACAGTGA	TATCACCATG	ACTTCACAGA	2040
	CATGGTCTAG	AATCTGTACC	CTTACCCACA	TATGAAGAAT	AAAATTGATT	AAAGGTTAAA	2100
30	AAAAAAWAA .	AAAAAMWAGG	GGGGCCCGGT	WCCCAG			2136
	(2) INFORMA	TION FOR SE	Q ID NO: 12	1:			
35	(i)	SEQUENCE CH	- Aracteristi	cs:			
		(A) LENC	TH: 219 bas E: nucleic a	se pairs			
<b>4</b> 0			NDEDNESS: o				
	(xi)	SEQUENCE D	ESCRIPTION:	SEQ ID NO:	121:		
	GCCCTAGTAT (	CTGGGCAGCT (	GTGCATGGAG	ATAGCCAGAG	GAAACATTTT	TTTTCTTAAT	60
15	GRATTGGTGA (	CCACATTTTG	TTGTTCTTGC	СТССТАТТАТ	CCGTGCSCTA	TTTGCATSCT	120
	GGTTTCTTCT A	ACAGTAGTTT :	ATGTAAATGT	TGTTTTGTCC	TTGTCGTTCT	CAGTAGAATT	180
50	GGTTCTGTAA 2	ACGAAACCTG (	GTCCTGTAAT	TTCAGTATA			219
55	(2) INFORMA	TION FOR SEC	Q ID NO: 12	2:			

- - (i) SEQUENCE CHARACTERISTICS:
    - (A) LENGTH: 1686 base pairs
    - (B) TYPE: nucleic acid
- 60 (C) STRANDEDNESS: double

TCCTAGAGCG AGAATTGGGG GAAAGCTGTT ATTTTTATAT TAAAATACAT TCAGATGTAA 1980 2016 AAAAAAAAA AAAAAAANCT CGAGGGGGG CCCCGG 5 (2) INFORMATION FOR SEQ ID NO: 120: 10 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 2136 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: double (D) TOPOLOGY: linear 15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120: 60 20 GCCGCCAGAT TCTGGAGGCG AAGAACGCAA AGCTGAGAAC ATGGACGTTA ATATCGCCCC 120 ACTCCGCGCC TGGGACGATT TCTTCCCGGG TTCCGATCGC TTTGCCCGGC CGGACTTCAG 180 GGACATITCC AAATGGAACA ACCGCGTAGT GAGCAACCTG CTCTATTACC AGACCAACTA 240 25 CCTGGTGGTG GCTGCCATGA TGATTTCCAT TGTGGGGTTT CTGAGTCCCT TCAACATGAT 300 CCTGGGAGGA ATCGTGGTGG TGCTGGTGTT CACAGGGTTT GTGTGGGCAG CCCACAATAA 360 30 AGACGTCCTT CGCCGGATGA AGAAGCGCTA CCCCACGACG TTCGTTATGG TGGTCATGTT 420 GGCGAGCTAT TTCCTTATCT CCATGTTTGG AGGAGTCATG GTCTTTGTGT TTGGCATTAC 480 TTTTCCTTTG CTGTTGATGT TTATCCATGC ATCGTTGAGA CTTCGGAACC TCAAGAACAA 540 35 ACTGGAGAAT AAAATGGAAG GAATAGGTTT GAAGAGGACA CCGATGGGCA TTGTCCTGGA 600 TGCCCTAGAA CAGCAGGAAG AAGGCATCAA CAGACTCACT GACTATATCA GCAAAGTGAA 660 40 GGAATAAACA TAACTTACCT GAGCTAGGGT TGCAGCAGAA ATTGAGTTGC AGCTTGCCCT 720 TGTCCAGACC TATKTTCTGC TTGCGTTTTT GAAACAGGAG GTGCACGTAC CACCCAATTA 780 TCTATGGCAG CATGCATGTA TAGGCCGAAC TATTATCAGC TCTGATGTTT CAGAGAGAAG 840 45 ACCTCAGAAA CCGAAAGAAA ACCACCACCC TCCTATTGTG TCTGAAGTTT CACGTGTGTT 900 TATGAAATCT AATGGGAAAT GGATCACACG ATTTCTTTAA GGGAATTAAA AAAAATAAAA 960 50 GAATTACGGC TTTTACAGCA ACAATACGAT TATCTTATAG GAAAAAAAA ATCATTGTAA 1020 AGTATCAAGA CAATACGAGT AAATGAAAAG GCTGTTAAAG TAGATGACAT CATGTGTTAG 1080 CCTGTTCCTA ATCCCCTAGA ATTGTAATGT GTGGGATATA AATTAGTTTT TATTATTCTC 1140 55 TTAAAAATCA AAGATGATCT CTATCACTTT GCCACCTGTT TGATGTGCAG TGGAAACTGG 1200 TTAAGCCAGT TGTTCATACT TCSTTTACAA ATATAAAGAT AGCTGTTTAG GATATTTTGT 1260

	CITECCUADO OCOTOCCAMO OCOCTOCOCO ANCCCAMINA GATGCCTICC GIGCCTICCA	180
5	TCAAGATCTC AATTTTGTGC GCAATTCCTA CAGCCCCTGT TGATTGGAGA GCTGGCTCCG	240
	GAAGAACCCA GCCAKGATGG ACCCCTGAAT GCGCATGGTC GAGGACTTCC GAGCCCTGCA	300
	CCAGGCAGCC GAGGACATGA AGCTGTTTGA TGCCAGTCCC ACCTTCTTTG CTTTCCTACT	360
10	GGGCCACATC CTGGCCATGG AGGTGCTGGC CTGGCTCCTT ATCTACCTCC TGGGTCCTGG	420
	CTGGGTGCCC AGTGCCCTGG NCCGCCTTCA TCCTGGCCAT CTCTCAGGCT CAGTCCTGGT	480
15	GTCTGCAGCA TGACCTGGGC CATGCTCCAT CTTCAAGAAG TCCTGGTGGA ACCACGTGGC	540
	CCAGAAGTTC GTGATGGGGC AGCTAAAGGG CTTCTCCGCC CACTGGTGGA ACTTCCGCCA	600
	CTTCCAGCAC CACGCCAAGC CCAACATCTT CCACAAAGAC CCAGACGTGA CGGTGGCGCC	660
20	CGTYTTCCTC CTGGGGGAGT CATCCGTCGA GTATGGNCAA GAAGAAACGC AGATACCTAC	720
	CCTACAACCA GCAGCACCTG TACTTCTTCC TGATCGGCCC GCCGCTGCTC ACCCTGGTGA	780
25	ACTITGAAGT GGAAAATCIG GCGTACATGC TGGTGTGCAT GCAGTGGGCG GATTTGCTCT	840
	GGGCCGCCAG CITCTATGCC CGCTTCTTCT TATCCTACCT CCCCTTCTAC GGCGTCCCTG	900
	GGGTGCTGCT CTTCTTTGTT GCTGTCAGGT ATGGCAGGGA GTGGCGAGGT CACACACAG	960
30	CGACAGGTGA CCCCCACTGC AGCCCCCCAC CAGAGCTTCC CTTTTCCCGT CTGCAGAATG	1020
	GGGCCAGTGG TACTGCCTCC CTGGCTTGCT GGTGGAATCA CATAAACACA AGYTTCAGGA	1080
35	GCCCAGGGTC GGTGGGTTTA GGGAGCGTGG CCTGGCTTGT AAGTGGCCCG GTGGGTGTCG	1140
	GAGCTGCTCT GGACTCAGCC TCACAGTGGA CACTGCTCCA TTCAGATTCT TTAAACACTG	1200
	GCAAGGGGC GATGGCCACA ATCCTATTGT ACAGATAAGG AAGTCAAGGC CAYTTGGGGA	1260
40	CAGYTGCTCT TCCAGCCTCC ACTCAGGGTG CCTTAAGTGG TGAGCTGGAC CTAGGGCAGT	1320
	GCCGAGCYTC CCCACAGGGT CCTGGAAAGC CACTGGTTCG TGTGGATCAC ACAGATGAAC	1380
45	CACATCCCCA AGGAGATCGG CCACGAGAAG CACCGGGACT GGGTCAGCTC TCAGCTGGCA	1440
	GCCACCTGCA ACGTGGAGCC CTCACTTTTC ACCAACTGGT TCAGCGGGCA CCTCAACTTC	1500
	CAGATCGAGC ACCACCTCTT CCCCAGGATG CCGAGACACA ACTACAGCCG GGTGGCCCCG	1560
50	CTGGTCAAGT CGCTGTGTGC CAAGCACGGC CTCAGCTACG AATGAAGCCC TTCCTCACCG	1620
	CGCTGGTGGA CATCGTCAGG TCCCTGAAGA AGTCTGGTGA CATCTGGCTG GACGCCTACC	1680
55	TCCATCAGTG AAGGCAACAC CCAGGCGGGC AGAGAAGGGC TCAGGGCACC AGCAACCAAG	1740
	CCAGCCCCG GCGGGATCGA TACCCCCAMC CCTCCACTGG CCAGCCTGGG GGTGCCCTGC	1800
	CTGCCCTCCT GGTACTGTTG TCTTCCCCTC GGCCCCCTCA CATGTGTATT CAGCAGCCCT	1860
60	ATGGCCTTGG CTCTGGGCCT GATGGGACAG GGGTAGAGGG AAGGTGAGCA TAGCACATTT	1920

	TCCCGTCACC TGTGTGAGCT GCTGGCACAG AGTTCTGAGC CCTGGACTCT GCCCCGGGGG	420
_	ATGTGGCCGG CACTGGGCAG CCCCTTGGAC TGAGGCAGTT TTGGTGGATG GGGGACCTCC	480
5	ACTOGTGACA GAGAAGACAC CAGGGTTTGG GGGATGCCTG GGACTTTCCT CCGGCCTTTT	540
	GTATTTTAT TTTTGTTCAT CTGCTGCTGT TTACATTCTG GGGGGTTAGG GGGAGTCCCC	600
0	CTCCCTCCCT TTCCCCCCCA AGCACAGAGG GGAGAGGGGC CAGGGAAGTG GATGTCTCCT	660
	CCCCTCCCAC CCCACCCTGT TGTAGCCCCT CCTACCCCCT CCCCATCCAG GGGCTGTGTA	720
1.5	TTATTGTGAG CGAATAAACA GAGAGACGCN TAAAAAAAAA AAAAAAAAAT TGAGGG	776
15		
20	(2) INFORMATION FOR SEQ ID NO: 118:  (i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 453 base pairs	
25	(B) TYPE: nucleic acid (C) STRANDEDNESS: double (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:	
30	GGTTCTGACA CCAGATGTTC TCTGCTCCTG GTTAATGTCA GTGAGGGCTG GAAGTTGAAT	60
50	AAATGAGAAC AGGAGTGGTC TGGGCCCATG TAAATGATCC TCCCTTGAAA GGAGGAACAG	120
	CTTTCATCAT TTGTTCCAGC TAAGCCTTGC ATGCATTATA GATCTGGTGC TAAGCAGTGG	180
35	GAAAGATCTC ATAAGTAATG TTTTATGTTC TTTCKGTCTC TCYTCTTCKG TTGTTCTTGG	240
	CTTGTGGGTT GTGTTTGKGG TTGTTAACTG GAAAATTGCT ATAAGCCAGT TGTCYCKAAK	300
40	TTTWAAAAAC GAATTAGAAA AACCATAAAA TCYTCTGGCC YATGCACATK GTCCCYGTTT	360
70	TGTGAAAACA TTAAAGGGTA AATAAAAAGG AAGGAGAACA GTCAATAATG TGCATCAAAT	420
	ATATTCTGAG TTCTAGAGAA ATTAATGACC AAG	453
45		
	(2) INFORMATION FOR SEQ ID NO: 119:	
50	<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 2016 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: double</li> <li>(D) TOPOLOGY: linear</li> </ul>	
55	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:	
	AGGCTGTTCA CAGGCACCCC GAGACAGCGT CCCCCCTCTG GGCGCACTGG ATTTGACGTT	60
<b>60</b>	AGGETTER CARGEAGES CARGEAGES CONTROLL AGACCCCAR INCOCCUTCCG	120

5	<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 790 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: double</li> <li>(D) TOPOLOGY: linear</li> </ul>	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116:	
10	GTGGGGAGGG GGCGGAGCAA AGCCGCGCCT CTGGGTGGGC GGGTCGGGCC GTCCAGGTCC	60
10	CTGACTTGAA CCTTCCCGGT CCCCAGCCCT CAACAGGAGG CGCAGAAAAT CTTCAAAGCC	120
	AACCACCCCA TGGACGCAGA AGTTACTAAG GCCAAGCTTC TGGGGTTTGG CTCTGCTCTC	180
15	CTGGACAATG TGGACCCCAA CCCTGAGAAC TTCGTGGGGG CGGGGATCAT CCAGACTAAA	240
	GCCCTGCAGG TGGGCTGTCT GCTTCGGCTG GAGCCCAATG CCCAGGCCCA GATGTACCGG	300
20	CTGACCCTGC GCACCAGCAA GGAGCCCGTC TCCCGTCACC TGTGTGAGCT GCTGGCACAN	360
20	AGTTCTGAGC CCTGGACTCT GCCCCGGGGG ATGTGGCCGG CACTGGGCAG CCCCTTGGAC	420
	TGAGGCAGTT TTGGTGGATG GGGGACCTCC ACTGGTGACA GAGAAGACAC CAGGGTTTGG	480
25	GGGATGCCTG GGACTTTCCT CCGGCCTTTT GTATTTTTAT TTTTGTTCAT CTGCTGCTGT	540
	TTACATTCTG GGGGGTTAGG GGGAGTCCCC CTCCCTCCCT TTCCCCCCCA AGCACAGAGG	600
30	GGAGAGGGC CAGGGAAGTG GATGTCTCCT CCCCTCCCAC CCCACCCTGT TGTAGCCCCT	660
30	CCTACCCCCT CCCCATCCAG GGGCTGTGTA TTATTGTGAG CGAATAAACA GAGAGACGTT	<b>7</b> 20
	AACAGCCCCA TGTCTGTGTC CATCACCCAN TGNTAGGTAG TCAAAGAAGT GGGGTGAGGG	780
35	CATGCAGAGT	790
40	(2) INFORMATION FOR SEQ ID NO: 117:	
40		
45	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 776 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: double  (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:	
50	CAGCGCTGGA AGCAGCTGAG CCTGTGAGGG GTGGGGAGGG GGCGGAGCAA AGCCGCGCCT	60
	CTGGGTGGGC GGGTCGGGCC GTCCAGGTCC CTGACTTGAA CCTTCCCGGT CCCCAGCCCT	120
55	CAACAGGAGG CGCAGAAAAT CTTCAAAGCC AACCACCCCA TGGACGCAGA AGTTACTAAG	180
55	GCCAAGCTTC TGGGGTTTGG CTCTGCTCTC CTGGACAATG TGGACCCCAA CCCTGAGAAC	240
	TTCGTGGGGG CGGGGATCAT CCAGACTAAA GCCCTGCAGG TGGGCTGTCT GCTTCGGCTG	300
60	GAGCCCAATG CCCAGGCCCA GATGTACCGG CTGACCCTGC GCACCAGCAA GGAGCCCGTC	360

	AAAGCCCACC CGAATCTTGT AGAAATATTC AAACTAATAA AATCATGAAT ATTTTTATGA	1320
	AGITTAAAAA TAGCTCACTT TAAAGCTAGT TTTGAATAGG TGCAACTGTG ACTTGGGTCT	1380
5	GGTTGGTTGT TGTTTGTTGT TTTGAGTCAG CTGATTTTCA CTTCCCACTG AGGTTGTCAT	1440
	AACATGCAAA TTGCTTCAAT TTTCTCTGTG GCCCAAACTT GTGGGTCACA AACCCTGTTG	1500
• •	AGATAAAGCT GGCTGTTATC TCAACATCTT CATCAGCTCC AGACTGAGAC TCAGTGTCTA	1560
10	AGTCTTACAA CAATTCATCA TTTTATACCT TCAATGGGAA CTTAAACTGT TACATGTATC	1620
	ACATTCCAGC TACAATACTT CCATTTATTA GAAGCACATT AACCATTTCT ATAGCATGAT	1680
15	TTCTTCAAGT AAAAGGCAAA AGATATAAAT TTTATAATTG ACTTGAGTAC TTTAAGCCTT	1740
	GTTTAAAACA TITCTTACTT AACTTTTGCA AATTAAACCC ATTGTAGCTT ACCTGTAATA	1800
20	TACATAGTAG TITACCITTA AAAGTIGIAA AAATATIGCI TIAACCAACA CIGTAAATAT	1860
20	TTCAGATAAA CATTATATTC TTGTATATAA ACTTTACATC CTGTTTTACC TAAAAAAAAA	1920
	AAAAAAAAA AAAAAACTCG AGGGGGGCCC GGTACCCAAT	1960
25		
	(2) INFORMATION FOR SEQ ID NO: 115:	
30	<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 536 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: double</li> <li>(D) TOPOLOGY: linear</li> </ul>	
35	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:	
	GTGCTCAGCC CCCGGGGCAC AGYAGGACGT TTGGGGGCCT TCTTTCAGCA GGGGACAGCC	60
40	CGATTGGGGA CAATGGCGTC TCTTGGCCAC ATCTTGGTTT TCTGTGTGGG TCTCCTCACC	120
	ATGGCCAAGG CAGAAAGTCC AAAGGAACAC GACCCGTTCA CTTACGACTA CCAGTCCCTG	180
	CAGATCGGAG GCCTCGTCAT CGCCGGGATC CTCTTCATCC TGGGCATCCT CATCGTGCTG	240
45	AGCAGAAGAT GCCGGTGCAA GTTCAACCAG CAGCAGAGGA CTGGGGAACC CGATGAAGAG	300
	GAGGGAACTT TCCGCAGCTC CATCCGCCGT CTGTCCAMCC GCANGCGGTA GAAACACCTG	360
50	GAGCGATGGA ATCCGGCCAG GACTCCCCTG GCACCTGACA TCTCCCACGC TCCACCTGCG	420
	CGCCCACCGC CCCCTCCGCC GCCCCTTCCC CAGCCCTGCC CCCGCAGACT CCCCCTGCCG	480
	CCARGACTTC CAATAAAACG TGCGTTCCTC TCGAMAAAAA AAAAAATAAA AAAACT	536

WO 98/39446 PCT/US98/04482

	AGGGAGATGA CGGACTAGAA GACTGTAAAT AAGATACCAA AGGCACTATT TTAGCTATGT	1800
5	TTTTCCCATC AGAATTATGC AATAAAATAT ATTAATTTGT CA	1842
10	(2) INFORMATION FOR SEQ ID NO: 114:  (i) SEQUENCE CHARACTERISTICS:	
15	(A) LENGTH: 1960 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: double (D) TOPOLOGY: linear	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:	
20	GAATTCGGCA CGAGCTTCTC CGCGCCCCAG CCGCCGGCTG CCAGCTTTTC GGGGCCCCGA	60
20	GTCGCACCCA GCGAAGAGAG CGGGCCCGGG ACAAGCTCGA ACTCCGGCCG CCTCGCCCTT	120
	CCCCGGCTCC GCTCCCTCTG CCCCCTCGGG GTCGCGCCCC CACGATGCTG CAGGGCCCTG	180
25	GCTCGCTGCT GCTGCTCTTC CTCGCCTCGC ACTGCTGCCT GGGCTCGGCG CGCGGGCTCT	240
	TCCTCTTTGG CCAGCCCGAC TTCTCCTACA AGCGCAGMAA TTGCAAGCCC ATCCCGGTCA	300
20	ACCTGCAGCT GTGCCACGGC ATCGAATACC AGAACATGCG GCTGCCCAAC CTGCTGGGCC	360
30	ACGAGACCAT GAAGGAGGTG CTGGAGCAGG CCGGCGCTTG GATCCCGCTG GTCATGAAGC	420
	AGTGCCACCC GGACACCAAG AAGTTCCTGT GCTCGCTCTT CGCCCCCGTC TGCCTCGATG	480
35	ACCTAGACGA GACCATCCAG CCATGCCACT CGCTCTGCGT GCAGGTGAAG GACCGCTGCG	540
	CCCCGGTCAT GTCCGCCTTC GGNTTCCCCT GGCCCGACAT GCTTGAGTGC GACCGTTTCC	600
40	CCCAGGACAA CGACCTTTGC ATCCCCCTCG CTAGCAGCGA CCACCTCCTG CCAGCCACCG	660
40	AGGAAGCTCC AAAGGTATGT GAAGCCTGCA AAAATAAAAA TGATGATGAC AACGACATAA	720
	TGGAAACGCT TTGTAAAAAT GATTTTGCAC TGAAAATAAA AGTGAAGGAG ATAACCTACA	780
45	TCAACCGAGA TACCAAAATC ATCCTGGAGA CCAAGAGCAA GACCATTTAC AAGCTGAACG	840
	GTGTGTCCGA AAGGACCTG AAGAAATCGG TGCTGTGGCT CAAAGACAGC TTGCAGTGCA	900
50	CCTGTGAGGA GATGAACGAC ATCAACGCGC CCTATCTGGT CATGGGACAG AAACAGGGTG	960
50	GGGAGCTGGT GATCACCTCG GTGAAGCGGT GGCAGAAGGG GCAGAGAGAG TTCAAGCGCA	1020
	TCTCCCGCAG CATCCGCAAG CTGCAGTGCT AGTCCCGGCA TCCTGATGGC TCCGACAGGC	1080
55	CTGCTCCAGA GCACGGCTGA CCATTTCTGC TCCGGGATCT CAGCTCCCGT TCCCCAAGCA	1140
	CACTCCTAGC TGCTCCAGTC TCAGCCTGGG CAGCTTCCCC CTGCCTTTTG CACGTTTGCA	1200
	TOCOCONOCINT TOTOCOTOR ATTACACO ACCACOTOCATO ACCOTOTOTOTO ACCOTA ACCO	1260

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

5	GGAGCCTCTC TTGCAACTTC TGCCACCGCG GGCCACCGCG GCCGCCTGAT CCCGCAGAGG	60
	AAGTCGCGGC CGTGGAGCGA TGACCCGCGG CGGTCCGGGC GGGCGCCCGG GGCTGCCACA	120
	GCCGCCGCCG CTTCTGCTGC TGCTGCTGCT GCMGCTGTTG TTAGTCACCG CGGAGCCGCC	180
10	GAAACCTGCA GGAGTCTACT ATGCAACTGC ATACTGGATG CCTGCTGAAA AGACAGTACA	240
	AGTCAAAAAT GTAATGGACA AGAATGGGGA CGCCTATGGC TTTTACAATA ACTCTGTGAA	300
1.5	AACCACAGGC TGGGGCATCC TGGAGATCAG AGCTGGCTAT GGCTCTCAAA CCCTGAGCAA	360
15	TGAGATCATC ATGTTTGTGG CTGGCTTTTT GGAGGGTTAC CTCACTGCCC CACACATGAA	420
	TGACCACTAC ACAAACCTCT ACCCACAGCT GATCACGAAA CCTTCCATCA TGGATAAAGT	480
20	GCAGGATTTT ATGGAGAAGC AAGATAAGTG GACCCGGAAA AATATCAAAG AATACAAGAC	540
	TGATTCATTT TGGAGACATA CAGGCTATGT GATGGCACAA ATAGATGGCC TCTATGTAGG	600
25	AGCAAAGAAG AGGGCTATAT TAGAAGGGAC AAAGCCAATG ACCCTGTTCC AGATTCAGTT	660
25	CCTGAATAGT GTTGGAGATC TATTGGATCT GATTCCCTCA CTCTCTCCCA CAAAAAACGG	720
	CAGCCTAAAG GTTTTTAAGA GATGGGACAT GGGACATTGC TCCGCTCTTA TCAAGGTTCT	780
30	TCCTGGATTT GAGAACATCC TTTTTGCTCA CTCAAGCTGG TACACGTATG CAGCCATGCT	840
	CAGGATATAT AAACACTGGG ACTTCAACRT CATAGATAAA GATACCAGCA GTAGTCGCCT	900
35	CTCTTTCAGC AGTTACCCAG GGTTTTTGGA GTCTCTGGAT GATTTTTACA TTCTTAGCAG	960
33	TOGATTGATA TTGCTGCAGA CCACAAACAG TGTGTTTAAT AAAACCCTGC TAAAGCAGTA	1020
	ATACCCGAGA CTCTCCTGTC CTGGCAAAGA GTCCGTGTGG CCAATATGAT GGCAGATAGT	1080
40	GGCAAGAGGT GGGCAGACAT CTTTTCAAAA TACAACTCTG GCACCTATAA CAATCAATAC	1140
	ATGGTTCTGG ACCTGAAGAA AGTAAAGCTG AACCACAGTC TTGACAAAGG CACTCTGTAC	1200
15	ATTGTGGAGC AAATTCCTAC ATATGTAGAA TATTCTGAAC AAACTGATGT TCTACGGAAA	1260
45	GGATATTGGC CCTCCTACAA TGTTCCTTTC CATGAAAAAA TCTACAACTG GAGTGGCTAT	1320
	CCACTGTTAG TTCAGAAGCT GGGCTTGGAC TACTCTTATG ATTTAGCTCC ACGAGCCAAA	1380
50	ATTTTCCGGC GTGACCAAGG GAAAGTGACT GATACGGCAT CCATGAAATA TATCATGCGA	1440
	TACAACAATT ATAAGAAGGA TCCTTACAGT AGAGGTGACC CCTGTAATAC CATCTGCTGC	1500
55	CGTGAGGACC TGAACTCACC TAACCCAAGT CCTGGAGGTT GTTATGACAC AAAGGTGGCA	1560
<i>)</i>	GATATCTACC TAGCATCTCA GTACACATCC TATGCCATAA GTGGTCCCAC AGTACAAGGT	1620
	GGCCTCCCTG TTTTTCGCTG GGACCGTTTC AACAAAACTC TACATCAGGG CATGSCAGAG	1680
60	GTCTACAACT TTGATTTTAT TACCATGAAA CCAATTTTGA AACTTGATAT AAAATGAAGG	1740

	GTGTCGAGAT	GGCTATGAAC	CCTGTGTAAA	TGAAGGAATG	TGTGTTACCT	ACCACAATGG	360
	CACAGGATAC	TGCAAATGTC	CAGAAGGCTT	CTTGGGGGAA	TATTGTCAAC	ATCGAGACCC	420
5	CTCTGAGAAG	AACCGCTGCC	AGAATGGTGG	GACTTGTGTG	GCCCAGGCCA	TGCTGGGGAA	480
	AGCCACGTGC	CGATGTGCCT	CAGGGTTTAC	AGGAGAGGAC	TGCCAGTACT	CGACATCTCA	540
10	TCCATGCTTT	GTGTCTCGAC	CTTGCCTGAA	TGGCGGCACA	TGCCATATGC	TCAGCCGGGA	600
	TACCTATGAG	TGCACCTGTC	AAGTCGGGTT	TACAGGTAAG	GAGTGCCAAT	GGACCGATGC	660
	CTGCCTGTCT	CATCCCTGTG	CAAATGGAAG	TACCTGTACC	ACTGTGGCCA	ACCAGTTCTC	720
15	CTGCAAATGC	CTCACAGGCT	TCACAGGGCA	GAAGTGTGAG	ACTGATGTCA	ATGAGTGTGA	780
	CATTCCAGGA	CACTGCCAGC	ATGGTGGCAC	CTGCCTCAAC	CTGCCTGGTT	CCTACCAGTG	840
20	CCAGTGCCTT	CAGGGCTTCA	CAGGCCAGTA	CTGTGACAGC	CTGTATGTGC	CCTGTGCACC	900
	CTCGCCTTGT	GTCAATGGAG	GCANCTGTCG	GCAGACTGGT	GACTTCACTT	TTGAGTGCAA	960
	CTGCCTTCCA	GAAACAGTGA	GAAGAGGAAC	AGAGCTCTGG	GAAAGAGACA	GGGAAGTCTG	1020
25	GAATGGAAAA	GAACACGATG	AGAATTAGAC	ACTGGAAAAT	ATGTATGTGT	GGTTAATAAA	1080
	GIGCTITAAA	CTGAATTGAC	ATTAACAGTR	GGTGATCAAC	TTTMCTATGT	GCTTGTGCTT	1140
30	TTGCTTTTGA	TGGAGTAATT	CATTGTTTTC	TTATCCACCT	AAATGCACCC	AGCTGCCCTT	1200
	GATTTTCTCT	GGGCTACTGG	CCTTCACAAC	CCTCTCCCAT	GTACCCTCTC	TGACTTTGGG	1260
	GTAACCCTCC	CCTAACTTAA	AGCTAGAGAA	TTCTGAAACT	GAGGAGGGGA	TCCTCTGTTA	1320
35	ATCAGTGAGC	ACTTITTGAT	GAGCTGATAG	ATGATATATG	AGAGACTATG	CGTGGCACAA	1380
	TACTTTGTTA	CACTCTTCAC	TGATACAAGT	GTTCTAGAGT	GYACACACAA	CCCAAAGATA	1440
40	GAAATAAAAA	GAGGAGCAGT	CTCGGGGAGC	TTGGGGCCTG	GTGTTCCATG	GAGAGGGAGA	1500
	AAGGAACAAG	CTTGRCCAAT	TCATTCAACT	CCTTATAAAA	ATGATGAGGA	GGCTGAAAAC	1560
	CAAGAATTTT	GATTGGGAAC	AGAATACAAG	CAGCTGAAKC	AGATGAWITA	CTAAGCAACA	1620
45	AAGATCCTGT	TTTTATACAA	ATATCCTTAG	TACAAAAACA	AAARAAGGAA	AACTGTAGGG	1680
	GGGAGTAATG	TGCTAAGTAA	GCAGAATTGC	CTCCAAAAGA	AGTTGTTTCT	AGTTACTCTT	1740
50	TTCCGGGTNG	GGATCTTTAG	NTTCCGGTAT	TGTGGGTATG	GTTCC		1785

### (2) INFORMATION FOR SEQ ID NO: 113:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1842 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

	CTGGGTTGGA	GCCCTCAGGG	ATGGCAGAAG	GCTGGGCCGA	GTCTCGGAAG	CAGTARACGT	960
	TGAAGCGGCT	GTGCTTATTG	GGGAAGCCAG	TCTGGTTGGG	GAAGANGAAG	AGAGTCTTGA	1020
5	CACCAGGCAA	GCCCCACCA	CAGCGCTGGC	TGGGTGTGAC	GATGGGGTAG	CGCACANTGC	1080
	CATCAGCTAG	CCACCTGGGC	TGCAGTGGTC	CAGGCCACCA	TCCCAGGCTG	CATACAGTTG	1140
10	GCCCGTGGTG	GCAATCTCTG	CACCCCCCTC	CTGGCAGTAC	GCCCGTGCTT	CCTCCAATGT	1200
10	CAGCTTCTCT	GGAGGGTCAC	CCAGGAACAG	TTCTCCATTT	AGGTCTTCAG	CATAACAGTA	1260
	CACATCATAG	AGGTCATCCG	GGTCCACCAC	ACCATAGTTC	CGGACCCCGG	GGAAGCCATC	1320
15	CATGTCTCCG	TAACAGGCCT	CTCGTGGGGT	CTGGATGGGA	TACCTTTGAC	CTTGAMCTCC	1380
	ACAGCGTCGC	TGCTGTCATC	GATGCCGTGC	TGGACCTCAC	AGCGATAGAT	ACCTGAGTCG	1440
20	TTGGGGCGCA	GCTCGCTCAG	CGCCAGGGGA	GACGTCGGTG	AGCGACGCTG	GGTACGCAGG	1500
20	CAGTGCCACG	CGGAACCGGT	AGGCCTCGTT	CACCTTGACG	CGCACTCCCC	GCGCCACCAG	1560
	CACYTCTGCC	TCCCGGCCCC	GGGACAGGAA	AGTCCACTTG	ACCCGCGGAG	AGCCCAGCAC	1620
25	ACCCCGCCG	CTCGGCGGTG	SCCGCAGGTA	GTGGACGTGG	CAAGGGATGK	TGAGGGCSCC	1680
	GCCGAGCAAC	GCCYTGCAGT	GGCGCGTCGC	CCGCGATGCG	CACGCGAAAA	GCGCGKTCCT	1740
30	CTGAGCTGTC	TCCTTCCAGA	ACATCTGCTA	AAGCTGCAGG	AGCCTGGGCC	AGGACCAGGG	1800
50	CTGCCAGCAG	GGGCAGGAAC	AGCTGGGCCA	TGCTGCAGGC	TACCCAGGGC	TGGGGTTGGG	1860
	TCGCGGCACT	GCGAAGTTTG	TOGCOTCOTO	CGGGGGTCTC	CTCCGGGTKC	ACGGCTCAGT	1920
35	NCCTGCAGCT	GCAGCTGAGA	CTGCGGCGG	A GACTGCGCGA	, ec		1962

## 40 (2) INFORMATION FOR SEQ ID NO: 112:

45

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1785 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

# (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

50	AAGTTTCAGC	CAAACTTCGG	GCGGCTGAGG	CGGCGGCCGA	GGAGCGGCGG	ACTCSGGGCG	60
	CGGGGAGTCG	AGGCATTTGC	GCCTGGGCTT	CGGAGCGTAC	CGCAGGGCCT	GAGCCTTTGA	120
	AGCAGGAGGA	GGGGAGGAGA	GAGTGGGGCT	CCTCTATCGG	GACCCCTCC	CCATGTGGAT	180
55	CTGCCCAGGC	GCCGCCGCG	GCCGAGGAGG	CGACCGAGAA	GATRCCCGCC	CIGCGCCCCG	240
	CTCTGCTGTG	GGCGCTGCTG	GCGCTCTGGC	TGTGCTGCGC	GACCCCGCGC	ATGCATTGCA	300

WO 98/39446 PCT/US98/04482

255

	TGCCAGCGGC	TCCTCTTTTG	AGGAGCTGGA	YTTGGAGGGC	GAGGGGCCCT	TAGGGGAGTC	900
5	ACGGCTGGAC	CCTGGGACTK	AGCCCCTGGG	GACTACCAAG	TGGCTCTGGG	AGCCCACTGC	960
5	CCCTGAGAAG	GGCAAGGAGT	AACCCATGGC	CTGCACCCTC	CCTGCAGTGC	AGTTGCTGAG	1020
	GAACTGAGCA	GACTCTCCAG	CAGACTCTCC	AGCCCTCTTC	CTCCTTCCTC	TGGGGGAGGA	1080
10	GGGGTTCCTG	AGGGACCTGA	CITCCCCTGC	TCCAGGCCTC	TTGCTAAGCC	TTCTCCTCAC	1140
	TGCCCTTTAG	GCTCCCAGGG	CCAGAGGAGC	CAGGGACTAT	TTTCTGCAAC	CAGCCCCCAG	1200
15	GGCTGCCNCC	CCTGTTGTGT	CTTTTTTTCA	GACTCACAGT	GGAGCTTCCA	GGACCCAGAA	1260
••	TAAAGCCAAT	GATTTACTTG	TTTCAAAAAA	AAAAWAAAA	AAAAAAAA	AAAAAAAA	1320

20

25

#### (2) INFORMATION FOR SEQ ID NO: 111:

### (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1962 base pairs

(B) TYPE: nucleic acid(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

30 CGGACCCTT CCTCCTCC NAAGCATGTC CCACCATTGT GGCAGGGGCT GGGGANACAG 60 TCACCTGATG CGGGGACCAC GGCCACTCCA CCTCGSTGGC GCTGTCAGTG GGCAGCACTG 120 35 GCTGGGCCTG CACTGAGGTC CCTGCTGGGG CAGTTCTTCC AGAATTATCT TCAGAGGGGG 180 CCTCCAGCTC CCTGGTACCC TCAGGGGCCC GTGTGGCTGG AAGCAGGGAA GGGGCACCCT 240 CGGAGCTTCC TGTCTCCTCG CTCTCTCCTC GAGGGACCCC AGATAGCTCA GGACCACCAG 300 40 TTGCCTCCCC CACCTCTCTT GCCTCAACCA GAGTGGAAGG TGATGGGGAT GCTAGGTTCC 360 TCTCCCTGGG AGTGGGCAGA GTCTCAGTAG GTGGTCCATG GACCCTTGGA GGCCTGGAAG 420 45 CTTCTGACTC TCCATCAGGA AGTGGTGATG CACCAGGCTG CAGGACTGCC CTTGCTGGCG 480 CCTGGGAGAG TGACTCCTCC TGGGCTGCTG GCTCAGTGGG GAGAGAGGCC TCAGGGCCCG 540 GGCTGCTGAG CTCGCTGGGC CATGCCCACA GAGCCTCATC CTCCACCTCC TCCTCTTCTT 600 50 CTTCCTCCTC TTTCTCTTCT TCATCTTCAT ATTTCTCTTC TTCCTCCAAT GCCTTACCTT 660 CCTCTTYTGR AAACCCCGTG GGCGGTACCA TGGATTGTGT TTCAAATTCT AGGAGCGTCC 720 55 TAGGGGCCTC TGCTGGGTCT TCTGGAGTGG AGCTTCCACC TCCTCCGTCC TCCATGATGG 780 GGATGGAGTA RATGGCCCCA CGGGATTCAC TCTCTGTGGC TTCCTGAGGC AGCTGCAGTT 840 CCTCCAGGGT CTCTGTCACT GTGACRATAG CCTCTAGTCC ATCAAAAGCT GGGTTGGAGG 900 60

	AGCTGGCTGA	AAGGGCAAAA	TGCAGGTGTT	TTCTCAGTAT	CACAGACCAG	CTCTGCAGCA	1500
	GGGGATTGGG	GAGCCCAGGA	GGCAGCCTTC	CCTTTTGCCT	TAAGTCACCC	ATCTTCCAGT	1560
5	AAGCAGTTTA	TTCTGAGCCC	CGGGGGTAGA	CAGTCCTCAG	TGAGGGGTTT	TGGGGAGTTT	1620
	GGGGTCAAGA	GAGCATAGGT	AGGTTCCACA	GTTACTCTTC	CCACAAGTTC	CCTTAAGTCT	1680
10	TGCCCTAGCT	GTGCTCTGCC	ACCTTCCAGA	CTCACTCCCC	TCTGCAAATA	CCTGCATTTC	1740
10	TTACCCIGGT	GAGAAAAGCA	CAAGCGGTGT	AGGCTCCAAT	GCTGCTTTCC	CAGGAGGGTG	1800
	AAGATGGTGC	TGTGCTGAGG	AAAGGGGATG	CAGAGCCCTG	CCCAGCACCA	CCACCTCCTA	1860
15	TGCTCCTGGA	TCCCTAGGCT	CTGTTCCATG	AGCCTGTTGC	AGGTTTTGGT	ACTTTAGAAA	1920
	TGTAACTTTT	TGCTCTTATA	ATTITATTIT	ATTAAATTAA	ATTACTGCAA	АААААААА	1980
20	AAAAAAATCG	GGGGGGGCC	CGN				2003

(2) INFORMATION FOR SEQ ID NO: 110:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1320 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

30

35

40

45

50

55

60

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

GCTGAGCTGC CTTGAGGTGC AGTGTTGGGG ATCCAGAGCC ATGTCGGACC TGCTACTACT 60 GGGCCTGATT GGGGGCCTGA CTCTCTTACT GCTGCTGACG CTGCTGGCCT TTGCCGGGTA 120 CTCAGGGCTA CTGGCTGGGG TGGAAGTGAG TGCTGGGTCA CCCCCCATCC GCAACGTCAC 180 TGTGGCCTAC AAGTTCCACA TGGGGCTCTA TGGTGAGACT GGGCGGCTTT TCACTGAGAG 240 CTGCAGCATC TCTCCCAAGC TCCGCTCCAT CGCTGTCTAC TATGACAACC CCCACATGGT 300 GCCCCCTGAT AAGTGCCGAT GTGCCGTGGG CAGCATCCTG AGTGAAGGTG AGGAATCGCC 360 420 CTCCCCTGAG CTCATCGACC TCTACCAGAA ATTTGGCTTC AAGGTGTTCT CCTTCCCGGC ACCCAGCCAT GTGGTGACAG CCACCTTCCC CTACACCACC ATTCTGTCCA TCTGGCTGGC 480 TACCCGCCGT GTCCATCCTG CCTTGGACAC CTACATCAAG GAGCGGAAGC TGTGTGCCTA 540 TCCTCGGCTG GAGATCTACC AGGAAGACCA GATCCATTTC ATGTGCCCAC TGGCASGGCA 600 GGGAGACTTC TATGTGCCTG AGATGAAGGA GACAGAGTGG AAATGGCGGG GGCTTGTGGA 660 GGCCATTGAC ACCCAGGTGG ATGGCACAGG AGCTGACACA ATGAGTGACA CGAGTTCTGT 720 AAGCTTGGAA GTGAGCCCTG GCAGCCGGGA GACTTCAGCT GCCACACTGT CACCTGGGGC 780 GAGCAGCCGT GGCTGGGATG ACGGTGACAC CCGCAGCGAG CACAGCTACA GCGAGTCAGG 840

#### (2) INFORMATION FOR SEQ ID NO: 109:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2003 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

CGCAGGGGC GCGCGCCCG GGGACTCGCA TTCCCCGGTT CCCCCTCCAC CCCACGCGGC 60 15 CTGGACCATG GACGCCAGAT GGTGGGCAGT GGTGGTGCTG GCTGCGTTCC CCTCCCTAGG 120 GGCAGGTGGG GAGACTCCCG AAGCCCCTCC GGAGTCATGG ACCCAGCTAT GGTTCTTCCG 180 ATTTGTGGTG AATGCTGCTG GCTATGCCAG NTTTATGGTA CCTGGCTACC TCCTGGTGCA 240 20 GTACTTCAGG CGGAAGAACT ACCTGGAGAC CGGTAGGGGC CTCTGCTTTC CCCTGGTGAA 300 AGCTTGTGTG TTTGGCAATG AGCCCAAGGC CTCTGATGAG GTTCCCCTGG CGCCCCGAAC 360 25 AGAGGCGGCA GAGACCACCC CGATGTGGCA GGCCCTGAAG CTGCTCTTCT GTGCCACAGG 420 GCTCCAGGTG TCTTATCTGA CTTGGGGTGT GCTGCAGGAA AGAGTGATGA CCCGCAGCTA 480 TGGGGCCACA GCCACATCAC CGGGTGAGCG CTTTACGGAC TCGCAGTTCC TGGTGCTAAT 540 30 GAACCGAGTG CTGGCACTGA TTGTGGCTGG CCTCTCCTGT GTTCTCTGCA AGCAGCCCCG 600 GCATGGGGCA CCCATGTACC GGTACTCCTT TGCCAGCCTG TCCAATGTGC TTAGCAGCTG 660 35 GTGCCAATAC GAAGCTCTTA AGTTCGTCAG CTTCCCCACC CAGGTGCTGG CCAAGGCCTC 720 TAAGGTGATC CCTGTCATGC TGATGGGAAA GCTTGTGTCT CGGCGCANTA ACGAACACTG 780 GGAGTACCTG ACAGCCACCC TCATCTCCAT TGGGGTCAGC ATGTTTCTGC TATCCAGCGG 840 40 ACCAGAGCCC CGCAGCTCCC CAGCCACCAC ACTCTCAGGC CTCATCTTAC TGGCAGGTTA 900 TATTGCTTTT GACAGCTTCA CCTCAAACTG GCAGGATGCC TGTTTGCCTA TAAGATGTCA 960 45 TCGGTGCAGA TGATGTTTGG GGTCAATTTC TTCTCCTGCC TCTTCACAGT GGGSTCACTG 1020 CTAGNAACAG GGGGMCCTA CTGGAGGGAA CCCGCTTCAT GGGGCGACAC AGTGAGTTTG 1080 CTGCCCATGC CCTGCTACTC TCCATCTGCT CCGCATGTGG CCAGCTCTTC ATCTTTTACA 1140 50 CCATTGGGCA GTTTGGGGCT GCCGTCTTCA CCATCATCAT GACCCTCCGC CAGGCCTTTG 1200 CCATCCTTCT TTCCTGCCTT CTCTATGGCC ACACTGTCAC TGTGGTGGGA GGGCTGGGGG 1260 55 TGGCTGTGGT CTTTGCTGCC CTCCTGCTCA GAGTCTACGC GCGGGGCCGT CTAAAGCAAC 1320 GGGGAAAGAA GGCTGTGCCT GTTGAGTCTC CTGTGCAGAA GGTTTGAGGG TGGAAAGGGC 1380 CTGAGGGTG AAGTGAAATA GGACCCTCCC ACCATCCCCT TCTGCTGTAA CCTCTGAGGG 1440 60

	CGGGTCCCAA	GCCTGTGCCT	GAGCCTGAGC	CTGAGCCTGA	GCCCGAGCCG	GGAGCCGGTC	60
5	GCGGGGGCTC	CCCCTCTCC	GACCGCTGGG	CCCCCAGCGA	TGGCGACCCT	GTGGGGAGGC	120
3	CTTCTTCGGC	TTGGCTCCTT	GCTCAGCCTG	TCGTGCCTGG	CCCTTTCCGT	GCTGCTGCTG	180
	GCGCATGTNC	AGACGCCGCC	AAGAATTTCG	AGGATGTCAG	atgtaaatgt	ATCTGCCCTC	240
10	CCTATAAAGA	AAATTCTGGG	CATATTTATA	ATAAGAACAT	ATCTCAGAAA	GATTGTGATT	300
	GCCTTCATGT	TGTGGAGCCC	ATGCCTGTGC	GGGGGCCTGA	TGTAGAAGCA	TACTGTCTAC	360
15	GCTGTGAATG	CAAATATGAA	GAAAGAAGCT	CTGTCACAAT	CAAGGTTACC	TTTAATTTA	420
15	ATCTCTCCAT	TTTGGGCCTT	CTACTTCTGT	ACATGGTATA	TCTTACTCTG	GTTGAGCCCA	480
	TACTGAAGAG	GCGCCTCTTT	GGACATGCAC	AGTTGATACA	GAGTGATGAT	GATATTGGGG	540
20	ATCACCAGCC	TTTTGCAAAT	GCACACGATG	TGCTAGCCCG	CTCCCGCAGT	CGAGCCAACG	600
	TGCTGAACAA	GGTAGAATAT	GCACAGCAGC	GCTGGAAGCT	TCAAGTCCAA	GAGCAGCGAA	660
25	AGTCTGTCTT	TGACCGGCAT	GTTGTCCTCA	GCTAATTGGG	GAATTGAATT	CAAGGTGACT	720
	AGAAAGAAAC	AGGCAGACAA	CTGGGAAAGA	ACTGACTGGG	NTTTTGCTGG	GTTTCATTTT	780
	AATACCTTGT	TGATTTCACC	AACTGTTGCT	GGAAGATTCA	AAACTGGAAG	CAAAAACTTG	840
30	CTTGATTTT	TTTTCTTGTT	AACGTAATAA	TAGAGACATT	TTTAAAAGCA	CACAGCTCAA	900
	AGTCAGCCAA	TAAGTCTTT	CCTATTIGIG	ACTTTTACTA	ATAAAAATAA	ATCTGCCTGT	960
35	AAATTATCTT	GAAGTCCTTI	' ACCTGGAACA	AGCACTCTCT	TTTTCACCAC	ATAGTTTTAA	1020
	CTTGACTTTC	AAGATAATTI	TCAGGGTTT	TGTTGTTGTT	GTTTTTTGTT	TGTTTGTTTT	1080
	GCTGGGAGAG	GGGAGGGATG	CCTGGGAAGI	GGTTAACAAC	TTTTTCAAG	TCACTTTACT	1140
40	AAACAAACTT	TTGTAAATAG	ACCTTACCTT	CTATTTTCGA	GTTTCATTTA	TATTTTGCAG	1200
	TGTAGCCAG	CTCATCAAAG	AGCTGACTTA	CTCATTIGAC	TTTTGCACTG	ACTGTATTAT	1260
45	CTGGGTATCT	CTGTGTCTC	CACTICATGO	TAAACGGGAT	CTAAAATGCC	TGGTGGCTTT	1320
-13	TCACAAAAA	G CAGATTITC	TCATGTACTO	G TGATGTCTGA	TGCAATGCAT	CCTAGAACAA	1380
	ACTGGCCAT	r TGCTAGTTT	CTCTAAAGAC	TAAACATAGT	CTTGGTGTGT	GTGGTCTTAC	1440
50	TCATCTTCT	A GTACCTTTA	GGACAAATCO	TAAGGACTIC	GACACTTGCA	ATAAAGAAAT	1500
	TTTATTTTA	A ACCCAAGCC	CCCTGGATTC	S ATAATATATA	CACATTIGTO	AGCATTTCCG	1560
55	GTCGTGGTG	A GAGGCAGCTY	TTTGAGCTC	C AATGTGTGC	GCTTTGAACT	AGGGCTGGGG	1620
55	TTGTGGGTG	C CTCTTCTGA	A AGGTCTAACO	ATTATTGGAT	AACTGGCTTI	TTTCTTCCTC	168
	TTTGGAATG	T AACAATAAA	ATAATTITTY	AAACATCAA	AAAAAAAA	AAAA	173

	CACAAGTGGA	TTCTCCTTCA	ATTCCTCAGC	TTCCCCTCTG	CCTCCAAACA	GGGGACACTT	600
	CGGGAATGCT	GAAYTAATGA	GAACTGCCAG	GGAATCTTCA	AACTTTCCAA	CGGAACTIGT	660
5	TTGCTCTTTG	ATTTGGTTTA	AACCTGAGCT	GGTTGTGGAG	CCTGGGAAAG	GTGGAAGAGA	720
	GAGAGGTCCT	GAGGGCCCCA	GGGSTGCGGG	CTGGCGAAGG	AAATGGTCAC	ACCCCCCCCC	780
10	CACCCCAGGC	GAGGATCCTG	GTGACATGCT	CCTCTCCCTG	GCTCCGGGGA	GAAGGGCTTG	840
- •	GGTGACCTG	AAGGGAACCA	TCCTGGTGCC	CCACATCCTC	TCCTCCGGGN	ACAGTCACCG	900
	AAAACACAGG	TTCCAAAGTC	TACCTGGTGC	CTGAGAGCCC	AGGGCCCTTC	CTCCGTTTTA	960
15	AGGGGGAAGC	AACATTTGGA	GGGGACGGAT	GGGCTGGTCA	GCTGGTCTCC	TTTTCCTACT	1020
	CATACTATAC	CTTCCTGTAC	CTGGGTGGAT	GGAGCGGGAG	GATGGAGGAG	ACGGGACATC	1080
20	TTTCACCTCA	GCTCCTGGT	AGAGAAGACA	GGGGATTCTA	CTCTGTGCCT	CCTGACTATG	1140
	TCTGGCTAAG	AGATTCGCCT	TAAATGCTCC	CTGTCCCATG	GAGAGGGACC	CAGCATAGGA	1200
	AAGCCACATA	CTCAGCCTGG	ATGGGTGGAG	AGGCTGAGGG	ACTCACTGGA	GGGCACCAAG	1260
25	CCAGCCCACA	GCCAGGGAAG	TGGGGAGGG	GGGCGGAAAC	CCATGCCTCC	CAGCTGAGCA	1320
	CTGGGAATGT	CAGCCCAGTA	AGTATTGGCC	AGTCAGGCGC	CTCGTGGTCA	GAGCAGAGCC	1380
30	ACCAGGTCCC	ACTGCCCCGA	GCCCTGCACA	GCCCTCCCTC	CTGCCTGGGT	GGGGAGGCT	1440
	GGAGGTCATT	GGAGAGGCTG	GACTGCTGCC	ACCCCGGGTG	CTCCCGCTCT	GCCATAGCAC	1500
	TGATCAGTGA	CAATTTACAG	GAATGTAGCA	GCGATGGAAT	TACCTGGAAC	ATTITITIGIT	1560
35	TTTGTTTTTG	TTTTTGTTTT	TGTGGGGGG	GGCAACTAAA	CAAACACAAA	GTATTCTGTG	1620
	TCAGGTATTG	GGCTGGACAG	GGCAGTTGTG	TGTTGGGGTG	GTTTTTTCT	CTATTTTTT	1680
40	GTTTGTTTCT	TGTTTTTTAA	TAATGTTTAC	AATCTGCCTC	AATCACTCTG	TCTTTTATAA	1740
	AGATTCCACC	TCCAGTCCTC	TCTCCTCCCC	CCTACTCAGG	CCCTTGAGGC	TATTAGGAGA	1800
	TGCTTGAAGA	ACTCAACAAA	ATCCCAATCC	AAGTCAAACT	TTGCACATAT	TTATATTTAT	1860
45	ATTCAGAAAA	GAAACATTTC	AGTAATTTAT	AATAAAGAGC	ACTATTTTTT	AATGAAAAA	1920
	ААААААААА	ААААААААА	CGACGCTGGT	GACCGGAATY	CGACGTACG		1969

55

- (2) INFORMATION FOR SEQ ID NO: 108:
  - (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1734 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

AACA TCCAATTCTC 960 CCTT CTGTGCCTGC 1020 TGCA ATCAATGCCC 1080
TGCA ATCAATGCCC 1080
GAGG CTCGCGAGCT 1140
CAAG ACCATTGTGG 1200
CATG GACCACCTGG 1260
CAAG AATCTGCAGC 1320
TTAT AATGAATTTT 1380
TTAA GTTATTGATG 1440
CTTG GGGAAATTGC 1500
TTTG CAAGAATCAT 1560
TATT GTGGAAATGA 1620
AAAA AAAAAAAAAA 1680
1712
rgage ageegtetge 60
CAGC AGCCGTCTGC 60
TCCG GGGGCGAGAA 120
TCCG GGGCGAGAA 120 TCTTC AGCATCTCTG 180
TTCCG GGGGCGAGAA 120 TCTTC AGCATCTCTG 180 TCAGC TGCCGGGGCC 240
TCCG GGGCGAGAA  120 TCTTC AGCATCTCTG  180 TCAGC TGCCGGGGCC  240 AAAGG GCGCAAAGGG  300
TCCG GGGGCGAGAA  120 TCTTC AGCATCTCTG  180 TCAGC TGCCGGGGCC  240 AAAGG GCGCAAAGGG  300 TGGCA CAAGCACAAG  360